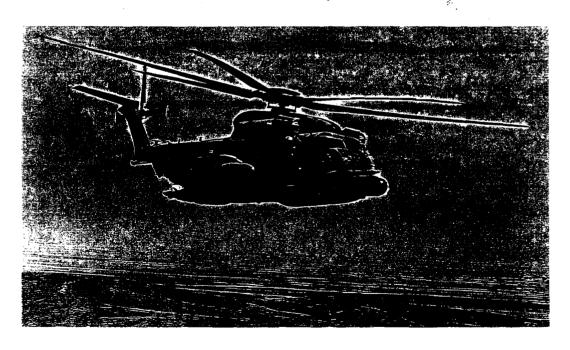
# UNITED STATES AIR FORCE AIRCRAFT ACCIDENT INVESTIGATION BOARD REPORT



## MH-53M, AIRCRAFT NUMBER 70-1625 20<sup>TH</sup> SPECIAL OPERATIONS SQUADRON 16<sup>TH</sup> SPECIAL OPERATIONS WING HURLBURT FIELD, FLORIDA



LOCATION: N34° 56.25, E069° 26.79 NEAR BAGRAM AB, AFGHANISTAN DATE OF ACCIDENT: 23 NOVEMBER 2003

BOARD PRESIDENT: BRIGADIER GENERAL STEVEN C. SPEER

Conducted IAW Air Force Instruction 51-503

# SUMBLARY OF FACTS AND STATE LENT OF OPINION MH-53M ACCIDENT 23 NOVEMBER 2003

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## COMMONLY USED ACRONYMS & ABBREVIATIONS

AF	Air Force	MA	Mishap Aircraft
AFB	Air Force Base	MC	Mishap Crew
AFI	Air Force Instruction	MEDEVAC	Medical Evacuation
AFSOC	Air Force Special Operations	MP	Mishap Pilot
	Command	MCP	Mishap Copilot
AFSOC/DO	AFSOC Director of	MFE	Mishap Flight Engineer
	Operations	MRS	Mishap Right Scanner
AGL	Above Ground Level	MLS	Mishap Left Scanner
AOR	Area of Responsibility	MTS	Mishap Tail Scanner
BPO	Basic Post-Flight Operation	MSL	Mean Sea Level
C2	Command and Control	Nf	Engine Power Turbine Speed
CASEVAC	Casualty Evacuation	Ng	Engine Gas Producer Turbine
Chalk	Element in aircraft formation		Speed
CRM	Crew Resource Management	Nr	Rotor RPM
CSAR	Combat Search and Rescue	NVG	Night Vision Goggles
CSH	Combat Support Hospital	OPCON	Operational Control
DIRCM	Directional Infrared	OTI	One Time Inspection
	Countermeasure	Pink Time	Time between sunset and
ENS	Enhanced Navigation System		last light
FARP	Forward Area Refueling	Pavelow	MH-53M Aircraft
	Point	RTB	Return to Base
FCF	Functional Check Flight	S/N	Serial Number
FLIR	Forward Looking Infrared	SOF	Special Operations Forces
HLZ	Helicopter Landing Zone	SOP	Standard Operating
IDAS/MATT			Procedure
	Avionics System / Multi-	TACON	Tactical Control
	Mission Advanced Tactical	T5	Turbine Outlet
,	Terminal		Temperature
IEWP	Integrated Electronic Warfare	TCTO	Time Compliance Technical
	Processor		Order
IGB	Intermediate Gear Box	TO	Technical Order
JOC	Joint Operations Center	TOLD	Takeoff and Landing Data
JSOTF	Joint Special Operations Task	USAF	United States Air Force
	Force	Z	Zulu or Greenwich Mean
L	Local Time		Time(GMT)
LZ	Landing Zone		

The above list was compiled from the Summary of Facts, the Statement of Opinion, the Index of Tabs, and witness testimony (Tab V).

## **SUMMARY OF FACTS**

## 1. AUTHORITY, PURPOSE, AND CIRCUMSTANCES

## a. Authority.

On 25 Nov 03, Lieutenant General Paul V. Hester, Commander, Air Force Special Operations Command (AFSOC), appointed Brigadier Steven C. Speer to conduct an accident investigation of the 23 Nov 03 crash of an MH-53M aircraft, serial number 70-1625, near Bagram AB, Afghanistan (Tab Y, 1). The investigation began at Bagram AB, Afghanistan, on 27 Nov 03 and continued at Hurlburt Field, Florida, on 26 Jan 04 after the Safety Board investigation was completed. Their investigation was completed on 26 Jan 04. Technical advisors were Major David P. Charitat, Legal Advisor; Major Percy E. Dunagin, Pilot Member; Captain Michael J. Colvard, Maintenance Member; Captain Scott M. Cummis, Flight Surgeon; and Senior Airman Leanna Grard, Recorder.

## b. Purpose. -

This aircraft accident investigation was convened under Air Force Instruction (AFI) 51-503. The primary purpose is to gather and preserve evidence for claims, litigation, and disciplinary and administrative actions. In addition to setting forth factual information concerning the accident, the Board President is also required to state his opinion as to the cause of the accident or the existence of factors, if any, that substantially contributed to the accident. This investigation is separate and apart from the safety investigation, which is conducted pursuant to AFI 91-204 for the purpose of mishap prevention. The report is available for public dissemination under the Freedom of Information Act (5 United States Code (U.S.C.) §552 and DOD 5500.7, AF Supplement).

#### c. Circumstances.

The accident board was convened to investigate the Class A accident involving an MH-53M aircraft, S/N 70-1625, assigned to the 20<sup>th</sup> Special Operations Squadron, 16<sup>th</sup> Special Operations Wing, Hurlburt Field, Florida, which crashed on 23 Nov 2003.

## 2. ACCIDENT SUMMARY

Aircraft 70-1625 experienced a compressor stall in the number two engine during an Infiltration/Exfiltration mission on 23 Nov 2003 and impacted the ground approximately nine miles from Bagram AB, Afghanistan. The Pilot, Major Steven Plumhoff; a passenger, Army Sergeant Major Phillip Albert; the Right Scanner Technical Sergeant William J. Kerwood; the Left Scanner, Technical Sergeant Howard A. Walters, and the Flight Engineer, Staff Sergeant Thomas A. Walkup were killed in the mishap. The Co-pilot, First Lieutenant Christopher C. Richardson; the Tail Scanner, Senior Master Sergeant Wayne C. Lopez; and passengers Second Lieutenant William H. Waggy, Staff Sergeant Jonathan Purser, Specialist Diane C. Gilliam,

Specialist Gary L. Craig, Specialist Juan C. Aguilera, and Specialist Demetrius D. Kincaid successfully egressed the aircraft post-crash and survived with injuries varying from severe to minor. The aircraft was destroyed upon impact with the loss valued at \$26,000,000.00. There was some damage to a local field, which was mitigated within a week of the crash, and no civilian casualties or injuries occurred.

## 3. BACKGROUND

The 16<sup>th</sup> Special Operations Wing, stationed at Hurlburt Field, Florida, maintains, among other aircraft, the MH-53M Pavelow for use in support of Special Operations worldwide. The wing and its subordinate units are all components of Air Force Special Operations Command. The 20<sup>th</sup> Special Operations Squadron (SOS) is a subordinate organization of the 16<sup>th</sup> Special Operations Wing. The mishap unit was a 4-ship detachment of the 20<sup>th</sup> SOS deployed to Bagram AB, Afghanistan supporting a joint task force (JTF) conducting combat operations in that theater.

Aircrews and aircraft converged in Kandahar, Afghanistan in early Nov 2003 in support of operations tasked and operationally controlled by the theater Combined Joint Special Operations Air Component Commander (CJSOAC). Three MH-53M's were transferred by strategic airlift from another theater location and one helicopter (MA) was brought directly to Kandahar from Hurlburt Field. Aircraft were built up, test flown and forward deployed to Bagram AB, Afghanistan. Aircrews were paired based upon previous Afghanistan experience and overall crew qualification. Maintenance crews were formed into shifts and assignments given. All MH-53M aircraft were in place on 13 Nov 2003.

The CJSOAC Commander, the JTF Air Component Commander, and the deployed Mission Commander of Pavelow operations discussed tasking and types of missions in depth during preplanning efforts and again upon arrival in theater. Operational requirements, aircraft performance, enemy operations, and environmental factors (terrain, weather, temperature) led to decisions that factored in all the above to arrive at mission sets/taskings that would be given to the MH-53 aircrews (Tab V 19.1-19.2). These tasks continually placed the aircrew and helicopter in the upper end of the medium risk category. Only the CJSOAC Commander had approval authority for high-risk missions (Tab V, 21.1-21.2). Additionally, he had the waiver authority from the AFSOC/DO to authorize aircraft gross weight operations above 46,000 pounds up to 50,000 pounds. This waiver is common during wartime operations because it allows maximum flexibility to support combat operation loads. In practice, the Mission Commander, had limited gross weights to 48,000 pounds as a rule of thumb, but his primary consideration was aircraft power performance, not weight (Tab V, 21.5). The mountainous region of the Afghanistan AOR requires terminal area operations at 6-10,000 ft MSL and enroute operations at 10-15,000 ft MSL. Often, the MH-53 at mission gross weights does not have hover or single-engine power capability at these altitudes without both engines operating and/or reducing weight through the auxiliary fuel tank jettison system, which puts the helicopter back in the single engine envelope, enabling it to recover safely when conditions warrant. Therefore TACON decisions by the JTF Air Component Commander had the aircraft performing only

missions that were within the training, scope and performance limitations of the aircraft. Specifically, terminal area operations were limited to conditions where 50-foot hover power was available. Enroute operations were limited by maximum power output from both engines, and dependent upon the ability to rapidly reduce weight in an emergency (Tab V, 21.2-3).

## 4. SEQUENCE OF EVENTS

#### a. Mission.

The mission was tasked as a two-ship movement of special operations forces and supplies between Bagram, Afghanistan, and remote sites in the mountains of Afghanistan. The Commander, Combined Joint Special Operations Air Component, authorized the mission.

## b. Planning.

The two crews tasked to fly this mission were on their third day of a 3-day rotation of support missions. The planning cycle was set up so that an additional crew was tasked to coordinate and plan daily missions while the flying crews were executing the current missions. Initial mission planning was conducted by the duty/planning crew, but the flight lead crew for this day had finalized the detailed planning for this mission the morning of the flight (Tab V, 6.15, 8.1). The mishap crew was the Chalk two element of all missions in this rotation. The Detachment Commander and Squadron Director of Operations, Lt Col Slife, was fully aware of the daily operations and talked regularly to the flight lead pilots about the specifics of each mission (Tab V, 21.3). He did not always attend the mission briefings but was fully aware of each mission's profile.

On the day of the mishap, both crews woke in the morning at approximately 0800 L and began final preparations for the mission. Capt Mark Newell, the Aircraft Commander of the flight lead element, Beatle 11, conducted the mission briefing using the standard briefing guide. Because this was the third day of similar re-supply missions, this briefing was familiar to all the crewmembers. All of the crewmembers interviewed fully understood the mission. The mission was to be a daylight mission, with a possible brief extension into nighttime, depending on the actual flow of the re-supply. This variable was mitigated by varying the routes to shave off time in order to maximize daylight operations. The available routes to do this had been discussed and weighed by all the crews on an ongoing basis (Tab V, 8.1-8.3). There had been some fluidity to the missions in the past two days, in that the supported team members had changed their loads from the pre-briefed loads (cargo and passenger requirements) at the last minute. Therefore, the mission crews were aware of this trend and fully expected there to be last minute changes. They had dealt with these changes with little problem and had adjusted on the fly while still maintaining the limitations on fuel, gross weight, and aircraft power margins (Tab V, 7.7, 17.1).

## c. Preflight.

Preflight was uneventful. Auxiliary tank safety pins were removed during preflight (Tab V, 12.21-22; Tab DD, 35).

## d. Flight.

The mishap flight, Beatle 11 and 12, initially departed Bagram Air Base at 0653Z (1123L) for its first leg of the mission, according to the JOC logs. The routes the flight took were through mountainous terrain rising from the Bagram valley altitude of 4,900 feet MSL to 12,500 feet MSL ridgelines. They made two out-and-back trips between the base and tactical landing zones, each lasting approximately three hours. These legs of the mishap sortic were flown both in the valleys and across ridgelines, at altitudes varying from 200 feet AGL to 3000 feet AGL to climb over the ridgelines (Tab V, 7.1, 8.2-8.3, 8.6-8.7).

The mishap flight departed Bagram Air Base for its final leg of the day at approximately 1221Z (1651L) from the approach end of runway 03 and began a climbing turn out to the east (Tab AA, 9). Takeoff weight for each aircraft was approximately 48,000 pounds with 7,500 pounds of fuel (Tab V, 5.2, 6.3, 7.7, 7.8, 8.5). The flight signed off with Bagram tower at approximately 1223Z (1653L) and continued eastbound. Flight lead (Beatle 11) intended to climb up to 7000 feet MSL initially, then continue to climb across a 9500 feet MSL ridgeline approximately 17 miles east of Bagram once they got closer to the ridgeline (Tab V, 8.6, 16.1). According to witness testimony, the MA took off several seconds delayed from its flight lead aircraft due to a slight delay coming out of the FARP at Bagram (Tab V, 16.1, 8.6). The MA climbed and accelerated to catch up with the lead aircraft. During this time the flight lead aircraft had slowed its speed to allow Beatle 12 to catch up. After Beatle 12 caught up to a position of eight to ten rotor disks back and staggered slightly left, as reported by the Tail Scanner on Beatle 11, Beatle 11 resumed a normal acceleration (Tab V, 16.2). This was reported as approximately five minutes after takeoff (Tab V, 8.6). Tracking data showed the MA departing the FARP at Bagram and turning out to the east, while climbing and accelerating (Tab AA, 9).

At this time, with Beatle 12 in a loose staggered left formation with approximately ¼ mile separation, the Tail Scanner on Beatle 11 reported over intercom that Beatle 12 appeared to be dispensing flares. Almost immediately, he added that Beatle 12 was turning left and descending, and continuing to dispense flares (Tab V, 16.1, 16.2). Beatle 11 queried Beatle 12 on the interplane radio about their maneuver, but, at first, got no response. Beatle 11 then turned left to follow Beatle 12 (Tab V, 6.7).

Several personnel onboard the MA heard popping noises, accompanied by flames, sparks and what appeared to be sparkling flares. One distinctly heard a pop from the number two engine. Another saw flames out the right side passenger windows. A third saw sparks on the right hand side only. The MTS reported hearing several popping noises that he interpreted as flares being dispensed (Tab V, 1.1, 3.1, 4.2, 5.2, 9.8, 23.2, 10.1). At the time, he was adjusting something in the right rear of the cabin, and immediately turned to look out the rear (Tab V, 4.2, 5.8). He saw what appeared to be flares coming out the right side of the aircraft, but did not observe anything out the left. He did not hear the normal beeping tones that the Chaff and Flare Dispenser makes when flares are dispensed, nor did he hear any tones from the DIRCM. At that moment, the MTS and one passenger also felt a small shudder in the aircraft (Tab V, 4.2). Shortly thereafter, he heard the cockpit crew analyzing the situation and taking steps to remedy it. These included announcing that there was a compressor stall in the number two engine (Tab V, 5.2, 5.3); calling for the gear down; and verbalizing and attempting to jettison the aux fuel tanks. Of the 12

## SINGLE ENGINE PERFORMANCE DATA

	1	2	3	4
Pressure Altitude (feet MSL)	4,600	6,600	4,600	4,600
Temperature (degrees C)	+9	+5	+9	+9
Gross Weight (pounds)	48,000	47,600	46,000	42,700
Density Altitude (feet MSL)	5,000	7,000	5,000	5,000
Maximum Power Available (percent torque)	114	107	114	114
Dual Engine Service Ceiling (feet MSL)	12,000	12,200	13,000	13,000
Single Engine Weight (pounds)	42,700	39,700	42,700	42,700
Sink rate with aux tanks (FPM)	-380	-550	-240	N/A
Sink rate without aux tanks (FPM)	-50	-200	+90	0
Single engine capable without aux tanks?	No	No	Yes	Yes

The MTS, realizing that they were going to make a precautionary landing, began to reduce weight by throwing his .50 caliber ammunition cans overboard. He considered throwing out the .50 caliber gun itself also, but was interrupted by the landing sequence (Tab V, 5.4).

During the descent after the initial compressor stall, Beatle 11 observed the MA dumping fuel (Tab V, 7.3, 6.8). No witnesses remember seeing the fuel dump stop prior to impact (Tab V, 6.8, 7.14-16). However, the post crash analysis of the dump switches indicated that they were in the off position at impact (Tab DD, 9). Beatle 11 also descended and accelerated (approximately 1,500 feet per minute and 120 knots) to catch up with Beatle 12. From Beatle 11's perspective, Beatle 12 was at the 12:30 position about 1 mile away (Tab V, 8.7, 6.8). Simulator recreation and analysis of the tracking data estimated that the MA descent rate averaged approximately 3,000 FPM, which included a droop in the rotor RPM.

One crewmember on Beatle 11 reported what appeared to be an orange flame from the right side of the MA, near the number two engine exhaust, just prior to impact. His perspective of the MA was to his 11:30, 1000 feet below and about 1 mile ahead (Tab V, 7.3-4). This corresponds with the timeframe when the number one engine made a popping sound. While it is uncertain whether this orange flame came from the number one or number two engine, it is possible that either the number one engine compressor stalled or the number two engine produced more flames due to its deteriorating condition. Nobody else, including the people on board the MA, reported any pre-impact fire.

## e. Impact.

Aircraft 70-1625, Beatle 12, impacted the terrain at approximately 1657L (1227Z) on 23 Nov 2003 at N 34 56.25 E 069 26.79 at approximately 4,500 feet MSL. Beatle 11 observed Beatle 12 impact the ground approximately 1.5 minutes after the initial turn, and reported it to the Joint Operations Center at Bagram at 1233Z (1703L) (Tab V, 7.3, 6.8). Photographs show initial impact scars near a riverbank extending towards a farmer's field at a heading of 310 degrees (Tab Z). The entire crash site is a relatively flat area, approximately 630 feet long and 270 feet

wide. Debris from the mishap aircraft is scattered as far as 360 feet from the main wreckage (Tab S, 3). There are no major obstacles such as trees, buildings or wires within 500 feet of the wreckage. The initial impact scars are on a flat surface covered with 6-inch diameter flat rocks, which appears to be the riverbed during the season in which the river would be wider and deeper (Tab Z). These scars lead up to the farmer's field, which borders this rocky riverbed with a sloping berm of dirt, approximately 3 feet high and 6 feet wide. This berm wraps around the river bend near the crash site, forming a barrier and a riverbank separating the river from the farmer's field. The field itself is made up of fertile soil with terraced sections separated by smaller berms (Tab Z).

Beatle 12 executed a normal, nose up, running landing into the crash site (Tab V, 5.3, 7.12), as the Flight Manual calls for (Tab BB, 21). Simulator recreations estimated that a touchdown speed of approximately 50 knots and descent rate of 500 feet per minute resulted from the flight path of the mishap aircraft from the initial point of engine failure to impact. At approximately 100-200 feet above the ground, and 0.1 nautical miles (600 feet) from the impact site, the mishap pilot flared the aircraft, which brought the nose up and tail down (Tab V, 1.1, 5.3-5.4, 9.10, 22.4-22.5). At this time, the MTS realized the landing was going to be rough, and dove forward off of the tail cargo ramp (Tab V, 5.4). In order to maintain controlled flight with one engine operating, the MP demanded a high power setting from the number one engine. As he increased power from an already high power setting to arrest the descent for landing, the number one engine strained even more and overheated (Tab V, 9.7, 9.14, Tab DD, 3-4). The number one engine made a loud pop (Tab V, 9.20). The MP continued to adjust the MA flare attitude and speed just prior to touchdown (Tab V, 9.7). When the MA touched down, scars indicated that the tail skid and the main landing gear touched down and began scraping on the flat rocky area approximately 180 feet prior to the berm (Tab S, 3). Witness testimony confirmed that the MA continued to slide on its belly until a significant bump that jarred the MA completely out of control (Tab V, 9.11, 10.7, 22.5). This bump was the berm, which acted as a ramp and caused the MA to pitch up slightly and become slightly airborne. As the nose pitched up, the tail section pitched down, causing the tail section to contact the ground at the intermediate gear box (IGB). The wreckage of the tail section shows significant damage to the IGB area but little damage to the tail rotors from rotating tail rotor blades digging into the ground (Tab Z). The tail skid assembly, mounted at the IGB, was also found on the berm near this impact point.

The force of the MA tail section impacting the berm caused it to separate just forward of the tail pylon hinge. Because the tail rotor blades were winding down after separation but still spinning, the thrust of them and the forward momentum of the aircraft carried the tail section forward and to the right of the berm approximately 50 feet (wreckage diagram). The effect of the tail section separation induced a right yawing motion in the MA due to the loss of tail rotor anti-torque. The nose then pitched down due to the shift in the center of gravity. The MA continued translating forward during this yaw, but did not make any scars on the ground between the berm and 60 feet down towards the main wreckage (Tab S, 3). The mishap flight engineer most likely shut off the number one engine throttle in response to this right yaw, as called for in the boldface emergency for tail rotor drive system failure in the Flight Manual (Tab BB, 19-20). Engine analysis indicated that the number one throttle was in the shutoff position, the number two throttle in the ground idle position (Tab DD, 37) and the number one engine's inlet guide vanes were in the shutoff position (Tab DD, 3). The Flight Manual calls for the engine to be pulled to ground idle

in the event of a compressor stall (Tab BB, 18). The 15 temperature from engine gauges analyzed indicated one engine at 700 degrees C and the other at 100 degrees C. This is consistent with the number one engine cooling off slightly (from over-temperature at 900 degrees C) between being shut off and losing electrical power as the generators went off line due to decayed rotor RPM; and with the number two engine cooling off after being placed in ground idle after the initial compressor stall and wind milling in cool air all the way down to the crash site.

As the MA lost its final lift, it impacted the ground on its left side while sliding left, ripping the left hand aux tank off, and causing it to roll over to the left once and come to rest on its top side, facing approximately 150 degrees right of its initial inbound course (Tab S, 3; Tab Z). A post-crash fire consumed the aircraft rapidly due to ruptured fuel lines and fuel tanks (Tab V, 2.1, 5.4, 6.8, 17.2).

## f. Life Support Equipment, Egress and Survival.

Upon boarding the MA the passengers received no safety or egress brief (as required IAW AFI 11-2 MH53 Vol. 3) and were provided with no means of securing themselves within the aircraft (Tab V, 4.1, 9.2). Upon impact the MA rolled to an inverted position and the body of the MA was divided by the post-crash fire into fore and aft sections (Tab S, 3). In the forward section the MCP, with a head injury, extricated himself from the cockpit and then reached into the rear section of the burning aircraft and found Specialist Aguilera attempting to locate an egress route. The MCP pulled Specialist Aguilera to safety (Tab V, 2.1). In the aft section of the MA, Specialist Craig, on his way out, attempted to extricate Sergeant Major Albert, who was pinned and unconscious. Unable to do that, he moved further back and saw Staff Sergeant Purser suspended from his personal safety line from the inverted floor and on fire. He paused, cut him free, and assisted him out of the MA into the nearby river, saving his life (Tab V, 9.12). The MTS and passengers Lieutenant Waggy, Specialist Gilliam, and Specialist Kincaid successfully egressed the aft portion of the MA after the crash and survived with injuries of varying levels.

Post-crash analysis indicates that position of the passengers within the aircraft, rather than the restraint method, was the significant factor in their post-crash condition and egress capability. The diagram included in Tab AA, which differs from the SIB Tab R, clearly shows that those passengers seated on the left of the MA sustained minimal injuries, while those on the right were either killed or severely injured (Tab AA, 1).

No deficiencies were noted in the life support and survival equipment. Inspection records of this equipment were reviewed and found to be appropriate and without discrepancy. Lack of a quick release on the HGU 56/P helmet may have delayed the egress of the MTS. The MTS's communication cord became tangled during the post crash sequence. One technique for untangling himself would have been removing his helmet, however, the chinstrap on this helmet requires two hands to unfasten. The MTS had sustained a shoulder separation, which rendered his left hand useless. He eventually pulled the cord loose and egressed (Tab V, 5.4).

## g. Search and Rescue.

Upon impact of the MA, Beatle 11 immediately assumed the CSAR role, landing approximately three to five minutes after the mishap (Tab V, 6.10). The crewmembers and passengers of Beatle 11 were unable to enter the MA to rescue any of the trapped members due to the post crash fire and exploding ordinance. Passengers on Beatle 11 rapidly established site security and gathered casualties. Crewmembers on Beatle 11 helped the injured passengers and crew.load onto their aircraft and then departed to Bagram AB about 20-25 minutes after the mishap, leaving a security detachment to secure the crash site (Tab V, 7.15, 16.3-4, 17.2). On approach to Bagram, Beatle 11 declared an emergency CASEVAC with the Bagram air traffic control tower, and stated their intentions to land at the Alpha taxiway, where they had coordinated with the JOC to meet SOF medical personnel. The tower controller misunderstood the term CASEVAC, and thus the needs of Beatle 11. The tower controller believed that Beatle 11 had an in-flight emergency and initiated a crash rescue response, but did not alert any ambulance or medical units (Tab V, 8.15; Tab AA, 11-12). No ambulances departed to meet Beatle 11 until four minutes and ten seconds after the aircraft landed on Alpha taxiway (Tab AA, 11-12). The reasons for this delay are three-fold: 1) Miscommunication with the tower controller, 2) Lack of a written mishap response plan in the Pavelow Operations Center (Tab V, 21.7), which meant that Pavelow crews did not have the MEDEVAC plans and frequencies to communicate with the Combat Support Hospital (CSH) (Tab V, 8.18), and 3). Lack of coordination between the JOC and the airfield MEDEVAC response system after the initial call from Beatle 11 (Tab V, 6.7). The CSH operated an independent MEDEVAC operations center and the standard procedure was for aircraft to land at the CSH, a location separate from Alpha taxiway. CSAR and MEDEVAC were not part of the mission profiles of the deployed Pavelow unit, although they routinely provide self-CSAR or can be called upon as CSAR aircraft of opportunity (Tab V, 21.4-21.6).

Additional aircraft on alert for CSAR were available but were not launched, since recovery of casualties was complete. Instead, Beatle 11 returned to the site with a team to continue site security and prepare for remains recovery (Tab V, 6.11-12, 8.17).

In summary, the initial medical response to Beatle 11 was delayed, but this did not contribute to the degradation in the medical condition of any of the casualties (Tab X, 1).

#### h. Recovery of Remains.

The 54<sup>th</sup> Quartermaster Company, a U.S. Army Mortuary Affairs detachment from Ft. Lee Virginia deployed to Bagram Air Base, conducted remains recovery. A team of 8 mortuary affairs members searched and recovered all possible remains over a four-day period using standard recovery techniques. The remains departed Bagram Air Base on 30 Nov 2003 aboard a C-17 aircraft to the Dover AFB Port Mortuary, where positive identification of remains and autopsies (if possible) were conducted. The remains were then released to the families for burial at Arlington National Cemetery.

## 5. MAINTENANCE

#### a. Forms Donentation.

The mishap occurred on an MH-53M aircraft, tail # 70-1625. The active 781 aircraft forms were destroyed in the post-crash fire (Tab D, 4). Upon review of 1625's historical maintenance documentation, no discrepancies were discovered relevant to the mishap. There were no open Time Compliance Technical Orders (TCTOs). Historical aircraft records did not reveal any significant recurring maintenance problems (Tab D, 4).

## b. Inspections.

All inspections were current for the MA. The last scheduled major inspection was a phase inspection that was successfully accomplished on 13 Aug 03 (Tab D, 3). The only open minor inspection documented in the maintenance forms was a hot section engine wash (Tab D, 4). The hot section wash is required to be accomplished every 50 hours in a sandy environment. The inspection was placed in the forms with 7.2 hours remaining until the actual inspection was officially due, thus not exceeding the 50-hour requirement in accordance with technical data (Tab BB, 24-28). This inspection was deemed to be unrelated to the mishap.

#### c. Maintenance Procedures.

All maintenance procedures, practices and discipline were deemed to be adequate. There was no unscheduled engine-related maintenance conducted on 1625 prior to the mishap. The auxiliary fuel tank jettison system was checked for electrical continuity on 11 Nov 03 upon aircraft buildup after air shipment (Tab U, 1). Prior to this check, the jettison system was checked for electrical continuity IAW TO 1H-53(M)J-2-2CL-2 on three separate occasions at Hurlburt Field (once upon transfer from 21 SOS, once after completion of the Phase Inspection, once following the DIRCM modification and one additional time for the left hand tank after maintenance was performed on the ALR-69). No discrepancies were noted on any of the above-mentioned checks. During the preflight checks prior the final flight of the mishap aircraft, there were no discrepancies noted by the maintenance or flight crew personnel (Tab V, 12.10). The MA landed with no discrepancy write-ups on the last sortie prior to the day of the mishap (Tab U, 2).

## Maintenance Personnel and Supervision.

There was adequate supervision for maintenance personnel at the deployed location. Maintenance personnel had the appropriate tools, technical data, and equipment to perform their assigned tasks. All maintenance personnel had adequate training and experience.

## d. Fuel, Hydraulic and Oil Inspection Analysis.

Engine oil samples were taken on 20 Nov 03 at Bagram by deployed military maintenance personnel. Results from the oil analysis were normal and within tolerances according to technical guidance. No other significant servicing information was deemed relevant to the mishap (Tab D, 6).

#### e. Unscheduled Maintenance.

No unscheduled maintenance was performed at the deployed location. Since the completion of the last scheduled 300-hour Phase Inspection on 13 Aug 03, the aircraft flew 77.5 hours locally at Hurlburt Field and there were four Time Compliance Technical Order (TCTO) modifications installed on the aircraft (Tab D, 3). On 21 Sep 03, the Directional Infrared Countermeasure (DIRCM) modification was installed on the aircraft (Tab U, 24). On 6 Oct 03, the Vibration Monitoring System, Mission Commander's Console, and Towel Bar modifications were installed on 1625. None of these TCTOs were determined relevant to the mishap. maintenance activities performed on 1625 since the time of the last scheduled Phase inspection are as follows: On 15 Sep 03 at Hurlburt Field, the number one engine feed back cable was adjusted by military maintenance personnel, due to a low power condition; the aircraft passed the subsequent functional check flight (Tab U, 21-23). On 24 Sep 03 at Hurlburt Field, military maintenance personnel replaced the aircraft battery (Tab U, 25-26). On 25 Sep 03 at Hurlburt Field, the number two engine feed back cable was adjusted by military maintenance personnel. due to a Ng limited write up; the aircraft passed the subsequent functional check flight (Tab U, 28). On 25 Oct 03 at Hurlburt Field, military maintenance personnel removed and replaced the battery for its 60-day capacity check (Tab U, 27). On 30 Oct 03 at Hurlburt Field, the aircraft was torn down for air shipment to the deployed location. On 13 Nov 03 at Kandahar, the aircraft was built back up and passed it's functional check flight (Tab U, 2-19). From 13 Nov 03 through 22 Nov 03 the MA flew 10 sorties accumulating 42.8 hours (Tab U, 2-19). None of the abovementioned unscheduled maintenance performed was directly related to the mishap.

## 6. AIRCRAFT AND AIRFRAME, MISSILE, OR SPACE VEHICLE SYSTEMS

## a. Condition of Systems.

The mishap aircraft (MA) was destroyed upon impact with the ground, causing severe damage to all structures and systems. Due to the extent of the post-crash fire, evaluation of the structures and systems was very limited. A review of the aircraft history revealed no evidence of pre-existing problems.

The MA propulsion system was evaluated by engineers from Warner-Robins Air Logistics Center at the Naval Aviation Depot in Cherry Point, NC. They determined that the number two engine experienced a compressor stall caused by a major compressor rub. Compressor rubs can occur when compressor blades expand and contact the engine casing. Expansion of compressor blades can be caused by excessive heat induced by high engine speeds, high altitudes, high aircraft gross weight and anti-ice heat. They also determined that the number two engine experienced blade failure as a result of the compressor rub which led to brief outbursts of flames and sparks. The inlet guide vanes were determined to be in the closed position at the time of impact. Closed inlet guide vanes are indications that the engine was not running or at ground idle at the time of its impact. Impact here is defined as when the MA rolled over and the engines struck the ground. The number one engine was determined to have failed due to overtemping of the gas generator turbine. The failure of the number one engine can be attributed to the gross

weight of the airc. , pressure altitude and the failure of the number two engine. Single engine capability does not exist at the weight and environmental conditions of the mishap. Any additional torque demand to reduce the sink rate of the MA before landing would have led to the engine exceeding max operating temperatures. Overtemping the turbine resulted in burning portions of the first stage gas generator turbine blades. The engine could not sustain power with the loss of the turbine blades. The inlet guide vanes for the number one engine were determined to be in the closed position at the time of its impact. There was no other evidence of internal failure of the number one engine (Tab DD, 1-4).

The MA emergency control panel was sent to the Air Force Research Laboratory's Materials Integrity Branch at Wright Patterson Air Force Base, OH. The emergency control panel contains auxiliary tank jettison switches, fuel dump switches, the hoist shear switch and the weapons armed switch. The summary of their report indicates that the left auxiliary tank jettison switch was most likely in the "on" position at impact and the switch guard was determined to be in the "up" position. The right hand auxiliary tank jettison switch exhibited no witness marks to suggest its position at impact, but the switch guard was determined to be in the "up" position. The hoist shear switch guard exhibited a one-time overload event suggesting that it was in the "up" position at impact. However, the hoist shear switch's position was not discernable at the time of impact. Both fuel dump switches were in the "off" position at impact. There was no evidence of electrical arcing on any of the switch terminals and wires analyzed (Tab DD, 5-33).

The MA auxiliary fuel tank jettison system components, engine throttle quadrant and engine air particle separators (EAPS) were sent to the Naval Aviation Depot at Cherry Point, NC. Engineers from Warner Robins Air Logistics Center analyzed the hardware. All of the auxiliary tank jettison system hardware analyzed displayed no signs of failure or inability to operate properly. In addition, there was no evidence that either auxiliary tank was jettisoned prior to impact. The engine throttle quadrant positions were determined to be in the "off" position for the number one engine and at "ground idle" for the number two engine. The throttle quadrant findings agree with the engine analysis conclusion that both engines were either not running or at ground idle at engine impact. The EAPS showed no signs of foreign object damage (FOD) that could have contributed to number two's failure. Both EAPS doors were closed at impact (Tab DD, 35-37).

The left and right side auxiliary tank jettison cam and piston assemblies along with the right hand fairing assembly were sent to Ogden Air Logistics Center, UT. The ejection gun chamber that houses the explosive cartridges was not recovered from the wreckage. It was determined that the cartridges did not ignite prior to impact. Engineers concluded the cartridges ignited during the post-crash fire. Lead (from the cartridges) was found on portions of the piston assembly, which resulted from the cartridges exploding from the post-crash fire. Due to the excessive heat of the post-crash fire, the explosion of the cartridges ruptured the heat-weakened ejection gun chambers and disengaged the pistons from the locked position (as seen from the contrast in heat damage on the piston shafts). The contrast in heat damage on the pistons indicates that the pistons were in the locked position at the beginning of the post-crash fire. In summary, this analysis concludes that the auxiliary tank jettison cartridges did not fire until the post-crash fire, which engaged the mechanical linkage once the tanks were on the ground (Tab DD, 39-61).

## b. Testing.

Below are the components that were analyzed following the mishap and the organizations that conducted the analyses:

Engines Naval Aviation Depot at Cherry Point, NC Engine Air Particle Separators (EAPS) Naval Aviation Depot at Cherry Point, NC Auxiliary Fuel Tank Pylons Naval Aviation Depot at Cherry Point, NC Throttle Quadrant Naval Aviation Depot at Cherry Point, NC Cam and Piston Assemblies Ogden Air Logistics Center, UT Jettison Hooks Ogden Air Logistics Center, UT Auxiliary Tank Ground Safety Pins Ogden Air Logistics Center, UT Ogden Air Logistics Center, UT Explosive Cartridges Emergency Control Panel Air Force Research Lab, WPAFB OH

Detailed results of these analyses can be found at Tab DD. The explosive cartridges from the MA were not recovered. However, similar cartridge lot numbers were tested by engineers at Ogden Aircraft Logistics Center. The results of this cartridge analysis showed that 100 percent of the cartridges tested fired as designed. Further testing showed that once the amperage went below 2.1 amps, some of the cartridges did not fire. The cartridges are designed to fire at 4.25 amps (Tab DD, 63-117).

On 13 Feb 04, a test was accomplished on a MH-53M at Hurlburt Field to verify that the proper electrical load was getting to the auxiliary fuel tank jettison cartridges. Test equipment was developed and set up to capture the voltage and current levels at the cartridge firing assemblies while the aircraft was operating off of battery power, external AC power and aircraft power with rotor blades turning. Under all three scenarios the appropriate amount of voltage and current was measured at the cartridge firing assemblies. The results from this test help eliminate any voltage or current interference from other operational systems on the aircraft running during normal operations. However, excessive resistance in the ground path, loose connections or corrosion in excess of approximately 6 to 8 ohms could prevent the minimum amount of current (2.2 amps) required to fire the cartridges from getting to the firing chambers (Tab DD, 119-137).

## 7. WEATHER

#### a. Forecast Weather.

The weather forecast for Bagram AB for the time period 0800Z to 1400Z was northerly winds at 8 knots, unrestricted visibility and mostly cloudy skies with cloud bases at 12,000 feet. Temperature and PA were forecast to be +4640 feet and +11 degrees C at the time of the last departure from Bagram. Sunrise occurred at 0204Z (0634L), sunset at 1213Z (1643L), and end of civil twilight at 1240Z (1720L). Moonrise occurred at 0105Z (0535L) and moonset at 1143Z (1613L), with 1 percent of moon illumination (Tab F, 3-4). Forecast weather was not a factor.

#### b. Observed Wear, r.

Actual weather observation at 1155Z (1625L) was mostly cloudy with clouds at 10,000 feet AGL, winds at 010 degrees at 7 knots, unrestricted visibility, and altimeter setting 30.26 inches (Tab F, 3). Observed weather was not reported to be significant by any witnesses. The mishap occurred after sunset and before ending civil twilight. Because of this, the effective illumination reported by various witnesses was different. The most common term used by witnesses on the MA and the mishap flight lead aircraft to describe this illumination was "pink time", a term used to describe the twilight condition after sunset but before night vision goggles are usable (Tab V, 6.23, 8.9). This illumination does affect terrain with limited contrast, as the terrain in the area was. This is further discussed in Section 10, Human Factors.

Post accident weather was not a factor.

## c. Space Environment.

Not applicable.

#### d. Conclusions.

Weather was not a factor.

## 7. CREW QUALIFICATIONS

## a. Mishap Pilot (Major Steven Plumhoff)

The Mishap Pilot (MP) completed the MH-53 pilot mission qualification course at Kirtland Air Force Base, New Mexico, on 30 Aug 1996. He was assigned to the 31st Special Operations Squadron from Sep 1996 to Aug 1997. He was then assigned to the 21st Special Operations Squadron from Aug 1997 to Jun 2001. He completed mission aircraft commander upgrade on 1 Jun 1998 and upgraded to Instructor Pilot on 17 Feb 1999 (Tab G, 23). He was assigned to the 551<sup>st</sup> Special Operations Squadron in Jun 2001. Maj Plumhoff was certified as an Evaluator Pilot on 6 Dec 01 at Kirtland AFB (Tab T, 8). In Oct 03 Maj Plumhoff volunteered to augment the 20<sup>th</sup> Special Operations Squadron on its continuous deployment to the Middle East AOR. He deployed to Hurlburt Field, Florida, for a brief train-up period. Due to differing currency requirements for formal schoolhouse instructors, he had to requalify in two events - Aircrew Eye/Respiratory Protection and Night Water Operations/Low Visibility Approaches - before deploying overseas. His was proficiency advanced during these requalifications due to "excellent aircraft control" and because he was a "seasoned instructor pilot." His evaluation for Low Visibility approaches labeled his instructor ability in Night Water Operations as "noteworthy" (Tab T, 3). On the day of the mishap Maj Plumhoff was current in all ground and flying training events. The MP was a highly experienced evaluator pilot with over 2,293 total hours, including 1,688 hours in the MH-53 (Tab G, 3).

Recent flight time is as follows (Tab G, 4):

	Hours	Sorties
30 days	29.0	10
60 days	34.3	14
90 days	43.3	16

## b. Mishap Copilot (1st Lieutenant Christopher C. Richardson)

The Mishap Copilot (MCP) completed the MH-53 pilot mission qualification course at Kirtland Air Force Base, New Mexico, on 21 May 2003. He was assigned to the 20<sup>th</sup> Special Operations Squadron in July 2003 (Tab G, 26). 1Lt Richardson then received certification in Aircrew Eye/Respiratory Protection, Defensive Suppressive Fire, Night Emergency Procedures, Night Water Hoist and Low Visibility Approaches (Tab G, 27). During his training for Low Visibility Approaches, his instructor noted his strengths as "quickly grasped duties and not afraid to speak up" and graded him "Excellent" for the sortie (Tab T, 11). On the day of the mishap 1Lt Richardson was current in all ground and flying training events with the exception of Cargo Sling (Tab T, 9). The MCP was a qualified but inexperienced mission copilot with 450 total hours, including 238 hours in the MH-53 (Tab G, 7).

Recent flight time is as follows (Tab G, 8):

	Hours	Sorties
30 days	25.3	8
60 days	51.7	16
90 days	67.0	20

## c. Mishap Flight Engineer (Staff Sergeant Thomas A. Walkup)

The Mishap Flight Engineer (MFE) completed the MH-53 flight engineer mission qualification course at Kirtland Air Force Base, New Mexico, on 13 May 2003. He was assigned to the 20<sup>th</sup> Special Operations Squadron in July 2003 (Tab G, 32). SSgt Walkup then received certification in Aircrew Eye/Respiratory Protection, Defensive Suppressive Fire, IDAS/MATT and Shipboard Operations (Tab G, 33). Although his unit training folder was misplaced after the mishap, MSgt Sean Nolan, a senior flight engineer instructor, stated that he had recorded in it that SSgt Walkup was a "sharp engineer;" "one of the smartest new engineers from the schoolhouse;" that he "grasped new ideas quickly;" and was "receptive and positive." On the day of the mishap SSgt Walkup was current in all ground and flying training events with the exception of Cargo Sling (Tab T, 17). The MFE was a qualified but inexperienced flight engineer with 294 total hours, including 294 hours in the MH-53 (Tab G, 14).

Recent flight time is as follows (Tab G, 15):

	-	Hours	Sorties
	30 days	30.1	9
	60 days	58.0	18
MH-53	90 days	76.0	25

## d. Mishap z t Scanner (Technical Sergeant Will. J. Kerwood)

The Mishap Right Scanner (MRS) completed the MH-53 flight engineer mission qualification course at Kirtland Air Force Base, New Mexico, on 23 Mar 1992. TSgt Kerwood has had many MH-53 assignments in his 17 years of flying, including all three operational squadrons. He upgraded to instructor flight engineer on 17 Nov 97 (Tab G, 28). He is qualified in all aspects of the MH-53 mission (Tab G, 31). On the day of the mishap TSgt Kerwood was current in all ground and flying training events, and had recently completed his recurring QUAL/MSN flight evaluation in Aug 03 after returning from Operation Iraqi Freedom (Tab T, 12). The MFE was an extremely experienced instructor flight engineer with over 4,231 total hours, including 3,053 hours in the MH-53 (Tab G, 3).

Recent flight time is as follows (Tab G, 10):

_	Hours	Sorties
30 days	25.4	7
60 days	54.5	18
90 days	74.0	27

## e. Mishap Left Scanner (Technical Sergeant Howard A. Walters)

The Mishap Left Scanner (MLS) completed the MH-53 aerial gunner mission qualification course at Kirtland Air Force Base, New Mexico, on 14 Dec 95. He was assigned to the 20<sup>th</sup> Special Operations Squadron from Jan 96 to Dec 98, the 31<sup>st</sup> Special Operations Squadron from Dec 98 to Dec 99, and the 551<sup>st</sup> Special Operations Squadron from Dec 99 to Jun 03. TSgt Walters upgraded to instructor aerial gunner on 23 Mar 00. In Jun 03 he was reassigned to the 20<sup>th</sup> Special Operations Squadron (Tab G, 34). Due to differing currency requirements for formal schoolhouse instructors, he had to requalify in one event – Night Water Operations – before deploying overseas. He was proficiency advanced during this requalification due to his exceptional skills (Tab T, 15). On the day of the mishap TSgt Walters was current in all ground and flying training events with the exception of Combat Survival Training (Tab T, 16). The MLS was a highly experienced instructor aerial gunner with over 1,984 total hours, including 1,984 hours in the MH-53 (Tab G, 17).

Recent flight time is as follows (Tab G, 18):

	Hours	Sorties
30 days	26.8	8
60 days	58.3	17
90 days	73.7	24

## f. Mishap Tail Scanner (Senior Master Sergeant Wayne C. Lopez)

The Mishap Tail Scanner (MTS) completed the MH-53 aerial gunner mission qualification

course at Kirtland Air Force Base, New Mexico, on 22 Apr 96. He was assigned to the 31<sup>st</sup> Special Operations Squadron from May 96 to Jun 97. In Jun 97 he was reassigned to the 20<sup>th</sup> Special Operations Squadron (Tab G, 37). On the day of the mishap SMSgt Lopez was current in all ground and flying training events. The MTS was a highly experienced mission aerial gunner with over 2,643 total hours, including 1,570 hours in the MH-53 (Tab G, 20).

Recent flight time is as follows (Tab G, 21):

	Hours	Sorties
30 days	24.3	7
60 days	31.8	10
90 days	36.7	12

## 8. MEDICAL

## a. Qualifications.

The medical records of the six crewmembers of the MA were reviewed in entirety. All crewmembers had current Periodic Health Assessments, a current AF Form 1042, and appropriate pre-deployment medical screening. No previously identified or missed medical issues were a factor in this mishap. All MA crewmembers were medically qualified for flight duties.

## b. Health.

The AIB medical advisor performed a comprehensive review of the post-accident medical records of the crew. In addition, the passengers with residual injuries and disability were interviewed, as well as their primary physicians. Of the MA crewmembers, the MTS sustained a left shoulder separation and is currently in the process of rehabilitation and will return to flying status. The MCP sustained a grade III concussion and is awaiting further medical evaluation prior to returning to flying status. The following two mishap passengers sustained injuries that will result in partial disability and potential end of active military service. Staff Sergeant Purser sustained multiple second and third degree burns that have required multiple surgeries, and will require further surgical and rehabilitative care. Specialist Craig sustained a C2 body and facet fracture and continues convalescence. All other MA passengers' injuries were minor and they have returned to full duty.

## c. Pathology.

The deceased MA crewmembers and passenger died from a combination of blunt force trauma and thermal injuries. Evidence indicates that the deceased were likely incapacitated during the post crash sequence and fire and were unable to be extricated. Toxicology was obtained from the MP, MCP and MTS; it was negative, and noncontributory to the mishap.

## d. Lifestyle.

There is no evidence that unusual habits, behavior, or stress on the part of the MC contributed to the accident (Tab V, 6.30).

## e. Crew Rest and Crew Duty Time.

The AIB president and medical advisor extensively interviewed the surviving MA crewmembers, the crewmembers of Beatle 11, and members of the deployed Pavelow detachment senior leadership. The MC had appropriate crew rest the night prior to the incident and the local unit adhered to AF standard crew rest instructions. No evidence of fatigue was noted in the MC (Tab V, 5.2, 6.31, 15.4). The mishap occurred approximately eight to nine hours into the crew duty day, well within the fourteen-hour contingency crew duty day limitation (Tab BB, Vol. 3, 11). In summary, crew rest and crew duty day requirements of the MC were not contributory factors in this mishap.

The maintenance superintendent and multiple maintenance members were interviewed in reference to maintainer crew rest and duty time requirements. The maintenance crews at Bagram were working 12-hour shifts at the time of the mishap, within the standard of AFI 21-101 (Tab V, 11.14, 24.6-7).

## 9. OPERATIONS AND SUPERVISION

## a. Operations.

The mishap unit has been deployed with at least one third of its assets for the Global War on Terrorism since Oct 01. The members of this unit have become well versed in the cycle of deployment and wartime operations. Many of the unit members had considerable experience in Afghanistan and in the AOR overall, and many of these were selected for this specific reason to deploy to Afghanistan in Nov 03. The operations tempo at the deployed location was relatively moderate. Crews were rotating every 3 days through 3 cycles: alert, flying scheduled missions and support/planning (Tab V, 21.4, 5.1). Operations tempo was not a factor.

## b. Supervision.

The mission was a standard one that the deployed mission commander, Lt Col Slife, had approved for the mishap unit. He briefed his mission approval authority (CJSOAC) on a daily basis on the types of missions he was tasked to support by the ground force, regardless of its risk level. He also had direct contact with the TACON commander, the JSOACC, on a daily basis. In addition, Lt Col Slife maintained detailed awareness of each mission by regular contact with the flight lead aircraft commanders, his cadre of Afghanistan experienced pilots, even if he did not personally attend each mission briefing (Tab V, 21.2).

## 10. HUMAN FACTORS ANALYSIS

The primary human factor in this mishap that can be directly linked to a cause is VISION RESTRICTED BY WEATHER/HAZE/DARKNESS, which is a factor when it is determined by the investigator that weather, haze, or darkness restricted the vision of the individual to a point where normal crew duties were affected. The mishap occurred at 1657 L time, fourteen minutes after sunset. Multiple eyewitnesses described the current lighting conditions in the area as "pink" time, a common aviator term used to describe a time between sunset and the need to transition to night vision goggles. The mishap occurred alongside a riverbed at the bottom of a mountain valley. The combination of diminished lighting, irregular shadowing from the surrounding mountains, and the inherent poor contrast of the desert-like environment may have created a visual perception of a flat, obstruction free landing zone. The MP may have been unable to distinguish the presence of the earthen berm, that when impacted, disrupted the MA's landing sequence, resulting in the aircraft rolling (Tab F, 4; Tab V, 6.23).

WRITTEN PROCEDURES - INADEQUATE is a factor when the procedural guidance or publications have inadequate written procedures that contributed to an unsafe situation. This is the case with TO 1H-53(M)J-2-2CL-2, which provides guidance to weapons maintenance personnel. This TO requires the technicians to only measure the voltage in the auxiliary tank jettison system. Unfortunately, this fails to measure the resistance, and the actual current coming from the switch to the cartridges. The current is actually what causes the cartridges to fire, not the volts (Tab DD, 81, 109). Therefore, no appropriate functional check of the electrical portion of the auxiliary tank jettison system is ever performed. A faulty ground wire, loose connection or excessive corrosion could have limited the necessary current flow through the circuit to ignite the cartridges. This would not have been detected by the weapons technician while following the current TO guidance.

COMPLACENCY is a factor when the individual's state of reduced conscious attention due to an attitude of overconfidence or undermotivation leads to an unsafe situation. The MC failed to ensure all passengers were familiar with safety and emergency egress procedures prior to the final departure from Bagram. Passengers interviewed stated that they did not receive the passenger brief they expected to receive, and were thus unfamiliar with the procedures of the MA. Some had flown on helicopters before, but only one had flown on MH-53s (Tab V, 1.1, 3.1, 4.1, 9.1, 10.3). In addition, the MC did not ensure all passengers had a means of restraint within the cabin. Only one was equipped with a personal restraint device and used it appropriately (Tab V, 5.2). The assumption of the MC was that the passengers had already been briefed or were experienced "team" members and extremely familiar with the procedures to fly in an MH-53 (Tab V, 5.2, 5.116.15, 6.31-6.32, 8.4, 21.9). However, these passengers, not their normal supported customers, had been hurriedly added to the load plan at the last minute (Tab V, 6.15, 6.31-6.32, 8.4, 21.9). These 6 passengers had been manifested on a different type of helicopter earlier in the day, but that flight was cancelled (Tab V, 4.1). Though difficult to accomplish during an engine running onload, in accordance with the Flight Manual TO 1H-53(M)M-1, page 2-2 and 2-9, and AFI 11-2MH-53 Vol 3, paragraph 6.35.3.1.1. the aircraft commander must ensure supported forces are briefed on the mission profile and mission events before flight. It is unclear whether lack of the above led to any significant injuries. In the postcrash analysis, seating position in the MA was more directly related to severity of injury (Tab V, 5.2).

There are no other human factors that significantly contributed to this mishap.

## 11. GOVERNING DİRECTIVES AND PUBLICATIONS

a. Primary Operations Directives and Publications.

AFI 11-2MH-53, Volume 3, 5 Sep 2003 TO 1H-53(M)M-1, 31 Jan 2001

## b. Maintenance Directives and Publications.

While there was no evidence of any maintenance personnel deviating from technical guidance, deficiencies with the auxiliary fuel tank jettison cartridge installation procedures were discovered. These procedures only verify that 28 volts DC is getting to the cartridge firing pin and that no stray voltage exists prior to reinstalling the explosive cartridges. Total resistance and resistance in the ground path is never measured. If the total resistance in the circuit is excessive (approximately 6 to 8 ohms), then the appropriate amount of amperage (2.2 amps) needed to fire the cartridge may not be available (Tab DD 119-128).

AFI 21-101, 1 Oct 2002 TO 1H-53(M)J-2-2CL-2, 30 Oct 2000 TO 1H-53(M)J-2-2, 15 Nov 2003 TO 1H-53(M)J-2-4, 15 Nov 2003 TO 1H-53(M)J-2-6, 15 Nov 2003

- c. Known or Suspected Deviations from Directives or Publications.
  - (1) Mishap Crew.

None

(2) Lead Crew/Others.

None.

(3) Operations Supervision.

None.

(4) Maintenance.

None.

## 12. NEWS MEDIA INVOLVEMENT

There have been two official press releases from the Accident Investigation Board. Each of these provided only basic information as to the purpose and progress of the Board's investigation. These releases were approved by the Air Force Chief of Staff in accordance with AFI 51-503. In general, the news media has not shown high interest in the details of this mishap. Print media have covered such events as the memorial service for the deceased members; and the hometown papers of some of the survivors have done human interest-type stories. There have been no queries to either the Accident Investigation Board or Air Force Special Operations Command Public Affairs regarding this incident.

26 February 2004

STEVEN C. SPEER

Brigadier General, USAF

A Charles

President, Accident Investigation Board

## STATEMENT OF PINION

## MH-53M ACCIDENT, BAGRAM, AFGHANISTAN

#### **23 NOVEMBER 2003**

Under 10 U.S.C. 2254(d), any opinion of the accident investigators as to the cause of, or the factors contributing to, the accident set forth in the accident investigation report may not be considered as evidence in any civil or criminal proceeding arising from an aircraft accident, nor may such information be considered an admission of liability by the United States or by any person referred to in those conclusions or statements.

- 1. <u>CAUSE</u>: I find by clear and convincing evidence that the cause of this fatal mishap was a sequence of events initiated by mechanical failure of the number two engine, followed by an electrical failure of the auxiliary fuel tanks to jettison, and concluded with the uneven terrain features of the landing area causing the aircraft to break apart, roll inverted and burst into flames after touchdown.
- 2. <u>CONTRIBUTING FACTORS</u>: I find sufficient evidence to conclude that high altitude, routine high gross weights, failure of the remaining engine just prior to a precautionary landing (when demand for power to arrest the descent rate exceeded the engine capability), inadequate Technical Order guidance, factored together, all contributed to this accident. Only excellent aircrew coordination and training allowed the remaining aircrew and passengers to survive. Timely rescue and recovery by flight lead, Beatle 11, ensured survivors were extricated to safety and medical facilities in minimum time. Awareness of self Combat Rescue and Recovery procedures, miscommunication and coordination between multiple operations centers, medical facilities, aircraft and tower communications resulted in less than adequate medical response times at Bagram Field.
- 3. <u>BACKGROUND</u>: The board investigated the following areas and found them not to have contributed to this mishap: Hostile Action, Qualifications (both maintenance and operations), Operations Tempo, Crew Duty Day/Crew Rest, Supervision, Life Support, Weather or Medical. No evidence could be found to support any theory of hostile ground action against Beatle 11.
- 4. <u>DISCUSSION</u>: The Board discussed the mishap sequence in detail with surviving aircrew, passengers, Beatle 11 aircrew, supervision and technical experts from the depots, labs and other subject matter experts. The causes and contributing factors are detailed below.
- a. The number two engine failure on Beatle 12 was caused by sustained high engine operating temperatures brought on by high engine speeds required at high altitudes and high gross weight. Excessive heat in the engine caused the compressor to rub against the engine casing. This compressor rub led to blade failure and engine compressor stall, which produced brief outbursts of flames and sparks. Additionally, prolonged anti-ice operations throughout the day could have contributed to the high engine temperatures. Analysis of recovered engine components determined that inlet guide vanes and engine performance indicators were the result of an engine not running or at ground idle at the time of impact, which is consistent with the

emergency steps for engine compressor stall (Tab DD, 1-4). Due to the high engine power setting at the onset of the engine failure, a decay of rotor RPM occurred. As the MP accelerated and reduced power to regain this rotor RPM, the MA developed a high sink rate that demanded an immediate reduction in weight, one that fuel dumping alone would not meet, due to a limited timeframe of about one minute until impact. There is evidence that the MA dispensed flares at the same time as the engine failure (Tab V, 5.2, 7.10, 16.2). This is likely the result of either an automatic dispense commanded by the Missile Warning System in response to engine flames, or a flare dispensed manually by a crewmember; however, no evidence supports any hostile ground fire.

- b. The auxiliary fuel tank jettison system failure was causal such that failure of the jettison system to work resulted in the MA not having sufficient power remaining to overcome the high altitude and aircraft gross weight with only one operative engine. Had the aux tanks jettisoned, the MC could have maintained single engine flight back to Bagram. With the aux tanks still on, the MC was forced to land immediately. Extensive testing, including operational testing, was conducted on the fuel tanks release mechanism, electrical systems, and cartridges. Post-crash analysis on the jettison switches indicated they were in the up and on position. Release mechanisms indicate they were functioning at the time of the mishap (Tab DD, 5-117). Aircrew testimony indicated the MFE and MP discussed the failure of the tanks to jettison (Tab V, 5.3). It was determined that the cartridges did not ignite prior to impact. Engineers concluded the cartridges ignited during the post-impact fire (Tab DD, 45). A review of Technical Order guidance on the electrical continuity check of the jettison system found it to be inadequate to assess whether the jettison circuit could deliver the current/amperage required to activate the cartridges (Tab BB, 1-8). I conclude that failure of the auxiliary fuel tanks to jettison was the result of an undetected electrical circuit failure and not a failure of the cartridges, the mechanical release systems, or the MC.
- c. The terrain features of the landing zone were causal in the outcome of this mishap. The mishap time of 1657L was after sunset (during what is called "Pink" time by flyers) and visual cues of the surrounding terrain were diminished. Shadowing in the river valley caused by surrounding high mountains; and sparse, arid and almost featureless contrasts on the ground made the precautionary landing zone appear to be a flat area. The MP, committed to landing due to little or no output of his remaining number one engine, made a controlled, roll-on landing in a nose up attitude with a forward speed and sink rate of approximately 50 knots and 500 FPM. A three foot high river bank, 180 feet from his touchdown point, caused the helicopter to become airborne, break off the tail boom and tail rotor, yaw to the right and roll left coming to rest 150 degrees from his approach axis, inverted and on fire. I believe this crash sequence would have been survivable if the terrain had been flat.
- d. The number one engine contributed to this accident when the demand on the engine for power (additional torque) to arrest the sink rate in the descent/landing phase caused the engine's gas generator turbine to exceed maximum operating temperatures. Single engine capability did not exist at the weight and environmental conditions of the mishap. Analysis of the post-crash engine determined the gas generator turbine blades tips had burned off 0.25 inches (Tab DD, 1-4). This likely caused a compressor stall, explaining the pop heard just prior to

## INDEX OF EXHIBITS

TAB A	AF Form 711, USAF Mishap Report •
TAB B	Preliminary Message Report
TAB C	AF Form 711B, Aircraft Flight Mishap Report
TAB D	AF Form 711C, Aircraft Maintenance and Materiel Report
TAB E	BLANK
TAB F	BLANK
TAB G	Flight and Personnel Records
TAB H	AFTO Form 781 Series
TAB I	Product Quality Deficiency Reports (DR)
TAB J	Technical and Engineering Evaluations of Materiel
TAB K	DD Form 175, Military Flight Plan
TAB L	Not Used
TAB M	Not Used
TAB N	Not Used
TAB O	Additional Substantiating Data or Reports
TAB P	Statement of Damage to Private Property
TAB Q	Orders Appointing SIB Members
TAB R	Diagrams
TAB S	Photographs
TAB T	Individual Flight Records and Orders (Not Included in Tab G)
TAB U	Aircraft Maintenance Records
TAB V	Witness Testimony and Statements
TAB W	NOT USED
TAB X	Statements of Injury or Death
TAB Y	Documents Appointing the AIB Members
TAB Z	Photographs
TAB AA	Flight Documents
TAB BB	Government Documents and Regulations
TAB CC	Not Used
TAB DD	Post Crash Analysis Reports

	1	FLIGHT A	UTHORIZAT	rio.	,			
1. PREPARED DATE: 22-Nov-03	2. MISSION NUMBER: 1XB2000PE	3327	3. DEPART	TURE LOCATION	ON:	4. DES	TINATION: OAIX	
5. MISSION SYMBOL AND PURPO 01A	OSE: PEI	D 6. SC	CHEDULED DEPA 23-Nov-03		/TIME: 7. S		RETURN DATE V-03 / A/R	TIME
		· 8. AE	RO VEHICLE: MH-53M	9. AC	FT TAIL #;	!	10. CALL SIGN BEATT	
11. CREW INFORMATION:						<u> </u>	· · · · · · · · · · · · · · · · · · ·	
A. NAME	B. GRADE MIL:GS	C. SECURITY CLEARANCE		E. DUTY . POSITION .	F. REMARKS CODE	G. UNIT	H. CREW NUMBER	I. INIT
PLUMHOFF, STEVEN	MAJ		EP	MP	Α,	0551		
RICHARDSON, CHRISTOPHI			МС	МС	В	0020		
KERWOOD, WILLIAM J.	TSGT	÷	IF	MF		0020		
WALKUP, THOMAS	SSGT		MF	MF	В	0020		
WALTERS, HOWARD A	TSGT		IG	MG	8	0020		
LOPEZ, WAYNE C	SMSGT		MG	MG		0020		
		. ~						
12. REMARKS (Variations in itinera	ary Authorized)			UALIFIED AIR	CREW AUTHO	RIZED TO P	ERFORM FCF E	NROUTI
A - IN COMMAND				- Airborne M				
B - NON CURRENT C - ACTING IN NEXT HIGHER QUA	AL FOR EVALUATION			- in comman				
D ACM STATUS, AUTHORIZED T	O "OTHER" FLYING TIME		К	- Aircraft con	nmanders res	stricted		
E - PRIMARY CREW MEMBER IN I F - MISSION COMMANDER	POSITION INDICATED		L	- Scheduled	evaluation			
13. AUTHORIZATION DATE: 22-Nov-03	14 AUTH NUMBER: 3167-04	ì	TRIBUTION:		· . /- ···			
16 60 NO-GO VERIFICATION								
I certify go-no-go checks were accor	unlished for aircrew members lis	ted above. As	a minimum flight	obveical obvei	cal availahlity i	nhysiological :	training	
emergency egress, local area surviv			_	•		-	=	
non-current for aircrew training or air	crew qualification have appropri	ate remarks cod	des assigned and	an instructor is	on-board for th	neir crew spec	1 /0	
1COX2 Initials:	OPS OFFICER REVIE	:W:		AIRCRAFT C	OMMANDER I	REVIEW: _	>1	
IF CHANGES TO ORIGINAL CREW	V MEMBERS: I certify the above	/e до-ло-до che	ecks were perform	ned for aircrew r	nember(s) add	ed:		
AIRCRAFT COMMANDER SIGNAT	•				.,			
_	ON OF AUTHORIZING ACTIVIT	Y	18. SIGNA	TURE ELEMEN	NT OF AUTHE	NTICATING (	OFFICIA	
DEPARTMENT OF THE AIR F				A	<u> </u>			
AIR FORCE SPECIAL OPERA			1	6				
20th Special Operations Square	iro		I	P. CONMY,	MAJ, USAF			
Hurburt Field FL 32544-5000			Missi	on Commend	er			

AFSOC FORM 41, 1 JUN 1999 (EF-V2 PREVIOUS EDITIONS ARE OBSOLETE

## EUH REQ (T MUST FLY W/INST) SEE EOH REM FOR SPECIFIC EVENTS

## **GO-NO-GO REPORT**

Name	Rank	CP	ASC	AO Term Date	Av Svc Rsn	Alt Cham	Flight Physical	P-Status	Restriction Code	Task IC	) Task Name	Accomp	Last Acc Date	Flag	Due Date Walver Di
			· · · · · · · · · · · · · · · · · · ·							**		Flag			
Kerwood, William J	TSGT	F	GO	GO	Active	GO	GO	Qualified	W	G280A	9MM (53 ONLY)	GO	19-AUG-2002	GO	-30-NOV-2003
Richardson, Christopher C	1LT	Ç	GO	GO	Active	GO	GO	Qualified		CS01J	53 CARGO SLING	GO	03-OCT-2002		31-OCT-2003
Walkup, Thomas A	SSGT	F	GO	GÖ	Active	GO	GO	Qualified	ı	CS01J	53 CARGO SLING	GO	21-OCT-2002		31-OCT-2003
Walters, Howard A	TSGT	G	GO	GO	Active	GO	GO	Qualified	1	LS17A	CDTQT (53 ONLY)	NOIGO		GO	
							• ,		w	G006	M-203/40MM	NO GO		GO	

Plumhoff (Dear

		<u>)                                    </u>								
CI	ERTIF	TE OF AIRC	CREW QUALIFICAT	TION	DATE CO	DATE COMPLETED  9 Oct 03				
1.		<del></del>	EXAMINEE IDENTIFICATION							
NAME				GRADE	SSAN					
Plumhoff, Steven				Maj						
ORGANIZATION AND LOCATION			ACFT/CREW POSITION	ELIGIBILITY PERIOD						
551 SOS, Kirtland AFB, N	NM			MH-53M/IP	MH-53M/IP N/A					
II			QUALIFICATI	ON						
	GROUNG	PHASE	<del></del>	<u> </u>	FLIGHT PHASE					
EXAMINATION/CHECK		DATE	GRADE	MISSION/CHEC	:к	DATE				
		_		RQ INSTR		9 Oct 03				
				RQ INSTR						
				RQ INSTR						
				RQ INSTR						
				RQ INSTR						
QUALIFICATI	ON LEVEL		RESTRICTION	ADDITIONAL TRAINING						
QUALIFIED	UN	QUALIFIED	(Explain in Comments)	DUE DATES						
1			YES X NO	N/A						
EXPIRATION DATE OF QUALIFICATION Mar (				DATE ADDITIONAL TRAINING CO	MPLETED N/A					
COMMENTS (if more space is need	ded, continue d	in reverse)				<del></del>				
EXAMINER'S REMARKS  A. Mission Description.	Requalif			status for water operation						

A. Mission Description. Requalification for LVA due to unqualified status for water operations of greater than 2 years but less than 5, IAW AFI 11-202V1. Maj Plumhoff accomplished LVA (water) and simulated dust approaches to landing with goggles up, utilizing system displays. Instructor demonstration of low and slow maneuver was noteworthy. Qualification in this maneuver is required due to member augmenting OEF contingency operations with 20 SOS.

B. Discrepancies. None.

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Ξ	<u>l</u>		CERTII	FICAT	ION						
					CHECK						
	TYPED NAME AND GR	ADE ORG	ORGANIZATION			R E M A R K S	SIGNATURE	DATE			
	FLIGHT EXAMINER										
1	William S. Berner,	20 SOS/D	ov			X					
1	Lt Col			1							
	REVIEWING OFFICER										
2	William S. Berner,	20 SOS/D	ov	X				- {			
	Lt Col						<u></u>				
3	FINAL APPROVING OFFICER James C. Slife,							,			
3	Lt Col	20 SOS/D	0	X							
:		I CERTIFY the	it I have been briefed/and	under:	stand ti	ne actio	n being taken this date.				
DA	ΤĘ	TYPED NAME AND GRADE OF					SIGNATURE				
	1	Steven Plumhoff, Ma	į								

AF Form 8, May 85

(CG) (SEMS Pro)

PREVIOUS EDITION WILL BE USED

	C	OMMENTS - SPECIAL OPERATIONS TRAINING RECORD
NAME	<u></u>	
DATE	TRAINING PERIOD	MISSION PROFILE / COMMENTS / RECOMMENDATIONS
70ctc3	Sequence	Le Mai Physical a requerce of training waiver
		for Maj Plumhoff to accomplish AN- 2
		briar to Trie AD-1 Maj Flumboff is a
		secisioned instructor bild frevious certified in
		FERR - he should have no broblem chamanstration,
		traficiency in this task.
		(acount)
 		A.E.Fiterré, May IP.
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		For RUAL.
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DATE	TRAINING PERIOD	MISSION PROFILE / COMMENTS / RECOMMENDATIONS
70cT 03	AN-2	5.1 complete
	NF-1	7: NUG SORTER FLOWN AT HAT TRAFFIC PATEUR
	NW-1	EAST BAY AND LOCAL TRUB ARREA WITH 140T
		CAS AT FLORALA. 1.0 IN TRAFFIC PATTERN WIT.
		AERPS PRACTICING LVA APPROACHES WITH NUMEROUS
<del>                                     </del>		AFE WORK. CONTINUED TO EXST BAY FOR NWE
		Hoists AND several LOW + Slows. COMPleted th
		SORTIES AT HRT with couplers,
		S: EXCELLENT HIRCRAFT CONTROL Expecially with AERAS
		W: CROSS CHECH IN 100' HOIST But IMPROVED
		SIGNIFICANTLY TO BE WELL within STANDATAS
<u> </u>		R: PROFICIENCY ADVANCED FOR AD-1 (DAY ADRAS) AND
	ļ	Recommend FOR NWOPS 'CHECK RESPONSE'
		Patrik D. French
		FRONK CAPT IP
900-103	DOT Review	Proceed with LVA cert & NWO Eval All fraining
		¿ RPL's met.
		(destin
		N.E. Fillelie, Nei «20505/

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AIRCREW EYE / RESPIRATORY PROTECTION (AERP)	TRAINING PROFILE	97	A	2												LEVEL
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INSTRAMENT APPROACH (Pilot, day or night)	<b></b>	3/6	1			3 3		翼翼	_	-	_	_	<del>                                     </del>	经 表		
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AF Form 4111, 19990501 (EF-V2)

## I. FLIGHT RECORDS

## A. INDIVIDUAL FLIGHT DATA AND FLYING HISTORY REPORT (MP)

PERSONAL DATA - PRIVACY ACT OF 1974 (5 USC 552a)

						•				
erepared 24 b	2007 xcm	15:57	1 ND	IVIDUAL I	FLIGHT DAT	A AS C	f za noy	2003	\$CN	SA036-560
name: Plumhofi Crew Posn: Ef	F. STEVEN	1		RANK:	NAJ S	San:		PRI AC	FT:	MIDS3J
CREW POSN: EP	' AG	: :	LST PHYS:	24 MAR	03 7	SPI: 1	FAC:	2 8	ASC:	18
DAFSC: Q01153					OS MAG					
				(PAR	r-1)					
NDS:	MH0533	SMH053J	MH053M	MC1302	SMH053M	UHOOIW	SHHCEOG	HH060	og.	STH053A
	EP	ΣP		X.P		<b>5</b> %	ХЭ	2	KP	IP.
TOTAL TIME:	01	62	. 03	34	¢5	06	97		68	90
TOTAL TIME:	915.9	123.5	409.3	4.9	0.8	2.3	1.5	2	. 0	31.2
PRIMARY:			141.0			0.0	0.7	- 2	. 0	14.2
SECONDARY:	233.6	44.0	126.4	0.0	00	0.5	0.8	Ú	. 5	17.0
INSTRUCTOR:	212 4	0.0	113.4	D. G	0.0	<b>6</b> .5	0.0	9	. 9	0 0
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MDS:				HH001H	TH053A	ACF.				
okem Posn: Seo No:	MC	MC	ŲC	UP	UP	ATOT.	_			
SEQ NO:	ćο	80		9.0						
TOTAL TIME:		304.4	1.2	35.8	58.9	1941.	-			
PRIMARY:	128:1	274 3		30.6		S25.				
Secondary:	49.2	308.9	O O	4 3	•	523.				
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	30.5		1.2	0,9		195.7				
	0.0	11.2			<b>0 0</b>	89 1				
CMBT SUPT:				0.0		24.4				
NVG:	0.0	59.9	9 0	0.0	9.0	560 5	9			

TOTAL FLYING TIME: 1941 5 TOTAL PRIMARY/INSTRUCTOR TIME: 1224 3
GRAND TOTAL: 2293.3 MDS FRIMARY/INSTRUCTOR TIME: 1151 4

## MH-53M, 70-001625, 20031123FTEV017A

## B. 30/60/90 DAY FLYING HISTORY REPORT (MP)

PREPARED 24 NOV 2001	15:57 13213	/lyua. Flight b	AIA AS OF 24 NOV	2001 PCN SAU25 F60
NAME: PLUMBOFF, STEVEN GREW POSN: EE: A NAFSC: Q01183A	LST PHYS: : LST CHMB: :	RANK: MAJ 24 MAR 03 16 MAR 00 M	AFF: 1 FAC.	PRI ACF1: MH053J 2 ASC: 1A
ATROPARU TYPE RE	Quest: All,	(PART=2)	AIRCRAFT MDS REQUES	r: \$
24 MOV 23 MOV 0.0 J.6			18 NOV 17 NOV 0.0 0.0	16 NOV 15 NOV 0.0
14 NOV 13 NOV 5.6 7 6	12 NOV 12 NOV 1 0.0 2.6	0 NOV 09 NOV 0.0 1.4		0.0 0.0 0.0 0.0 0.0
	62 NOV G1 NOV 3 2.8 2.4			
-: 36	DAYS TOTAL FLYING TI	ME: 29 0	DAYS FLOWN: 10	·•
25 OCT 24 OUT 0.0 9.0		11 OCT 20 OCT 3.0 2.4	19 OCT 18 OCT 18 0.0	17 OCT 16 OCT 0.0 0.0
	13 ccm 12 ocm 1 0.0 0.0		0.0 0.0	07 DCT 06 OCT 0.0
	03 OCT 02 OCT 0 0.0 0.0			
60	DAYS TOTAL FLYING TI	ME: 34.3	DAYS FLOWN: 14	
25 SEP 24 SEP 0.0 0.0		21 SEP 20 SEP 0.0 0.0	19 SEP 18 SEP 0.0	17 SEP 16 SEP 0.0 5.1
15 SEF 14 SEP 0 0 0 0 0		11 SEP 10 SEP 0.0 0.0		07 SEP 06 SEP 0.0 0 0
	0.0 00 0			28 ADG 27 AUG 0.0 0.0

PAGE 2 PAGE 2

PERSONAL, DATA - PRIVACY ACT OF 1974 (5 USC 552a)

--- 96 DAYS TOTAL PLYING TIME: 43 3 DAYS FLOWN: 16 ---

# C. FLIGHT TIME CATEGORIES AND FLIGHT CONDITION TIME SUMMARY (MP)

PERSONAL DATA - PREVACY ACT OF 1974 (5 USC 552a)

					-	-					
PREPARED 26	NOV 2003 16:04		A)	IRCRAFT MISHAD	INVESTICA	TION (P	A)	AS OF	24 NOV 200	3 PCN SAO	35-P20
NAME: PIJEM CMD: AET CHRR RATING:	npf, Strven Hing: 0056Schri Senior Pilot		e: Kaj	55an: Oxeanization: Aircraft Tyfe			FAC: 2 POSITION: AL NO: 625	₽P	DAFSC: Q ASC DATE: HISHAP DAT	05 OCT 199	
				HIZEM MEE	AP AIRCRAP	gi mer					
	PRI	SPC	THEI	EVAL	CTHER	TOTAL	iri/inst	neger	IMS	SIN INS	SORT
MIOS 34	144 0	126.4	113.4	1.4	24.1	409.3	257.4	102.7	5,5	11.8	194
LAST 30 DAS	ts 6.7	5.5	10.5	1.4	4.9	29.0	17.2	5 4	0.0	96	12
LAST 60 DA		8.3	10.3	1 4	4.5	34.3	19.7	7.0	0.0	0.6	17
LAST 90 DA		8.3	10.5	1.4	4.9	34.3	19.7	7.0	0.0	0.6	17
				*** OTHE	B AIRCRAFT						
	19 <del>9</del>	SEC	INST	eval.	UTHER	207AL	PRI/INST	HIGHT	11%5	2H 1H2	SURT
HERS 3J	4R7.0	342 5	712.4	69.8	108.6	1220.3	699.4	311.4	14.4	36 9	555
HAST 30 DAT	(S 0.0	0 0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	fi, ö	t)
LAST 60 DAI	rs 9.0	0 0	0.0	0.0	0.0	0.0	0.0	Ω, α	0.0	0.0	Ω
LAST 90 DAT	S 0.6	0 0	4.8	3.6	0.0	3.6	5.4	0 6	0 0	0.6	2
S8H053J	57 2	44.0	0.0	11.5	10.8	123.5	57.2	2.0	0 0	7.2	41
LAST 30 DAY		n a	0.6	0.0	D.0	0.0	0.0	0.0	Đυ	0.8	Ċ
LAST 69 DAY		0 0	0.0	9 0	0.8	a n	υ.o	0.0	0.0	Q D	Ω
Mast 90 Day		0.0	0.0	0 0	0.0	0.0	0 0	a n	0 0	Ø. 9	n
MC136P	0.0	0.0	0.0	0.0	4.9	4.9	ى ن	0 0	0.0	0.0	1
LAST 30 DAY		0.0	0.0	0.0	0.0	0.0	0.0	C.0	0.0	0.0	Ð
LAST GO DAY		0.0	0.0	0.0	0.0	0 0	9.9	0.0		n a	n
IAST 90 DAY		0,0	0.0	0.0	0.0	0.0	0.0	រា ប		0.0	0
SHHOS3M	0.8	0.0	0.0	0.0	0.0	0.8	0.8	0.0	<b>U</b> . 0	0.0	1
LAST 30 DAY		6.0	0 0	0.0	0.0	0.0	0.0	8.0	0.0	0.0	0
LAST GO DAY		0.0	0.0	8.0	0.0	0,0	0 0	0.6	0.0	D, 6	Ð
LAST 90 DAY		0.0	a n	0.0	0.0	0.6	n û	0.0	0.0	0.0	0

			Persural D	ATR · PRIVACY	ACT OF 1	974 (5 U	SC 557a)				
PRRPAREI 24 MIN	2003 16-04		ATR	CRAPP HISHAP	investica	PA	<b>1</b> ;	AS OP	24 NEW 2003	PCN SADTE	· <b>F</b> 20
mme: Plankuff, CMD; aei I'nn kating: Se	WING: 0058SCMWI			SEAN: READIZATION: TREMAPT TYPE:	05515C58U	CREW		6P	DAFSC: QUI AST DATE: 05 MISHAP TATE:	OCT 1994	
, we have 199	(Class I Car)		^	(M. CAPI IEFE)	MECOIM	aun 17	411 NO. 023	,	MADIME (MIC.	23 1107 20	•3
				· · · onie	AIRCRAFT						
	PRI	GEC	INST	EVAL	GTHER	TOTAL	58171HE5	HICH	185 5	EIR INS S	SORF
IBIOCEN	n e	0 3	0.0	0.0	2 5	2.3	0.0	5.3	0.0	g.\$	3
LAST JO DAYS	0.0	13 0	6.0	0.0	0.0	0.0	0.18	0.0	0.0	0.0	Ó
LAST 60 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	U.D	0.0	6.9	0.0	a
	0.6	g n	0.0	0 0	0.0	0.0	0,0	0.0	0.9	0,0	(1
SHHO SOC	11 /	0 B	<b>3.6</b>	9 n	0.0	1.5	0.7	9 0	9.0	0.0	)
LAST 10 DAYS Dath 60 Days	0 6	0.0	9.¢	3 0	13 (1	0.0	0.0	5.0	C H	0.0	Ø
DAST 90 DAYS	0 0 0 11	o c o u	5.0 5.0	0 0 0.0	0.0	0.0 0.0	Q.6 U.11	9.0	G.0	0.0	ra O
				-						-	
nangg Last do Days	7 0 9.0	0.3	3.0	U 6	0.0	2.0	2.0	9.0	0.0	0.0	ì
RYAC US TRAL	8.6	8 D	0.6 0.6	0.0 0.0	O C	0.0 D U	0.0 a.0	0 11	∯.0 g.a	a,0 ⊕.a	Q D
LAST 98 IWYS	0 a	0 0	0.0	0.0	0.4	9.0	0.0	0 0	0.0	0.0	n
HHOOLH	158.7									• •	
HAST 10 DAKS	136./ P tj	52.5 0.8	0.0 8.0	0.0 0.0	31,4 0,0	242.6	158.7 0.0	8.5 0.0	3.2 0.0	9,2 9,0	178 ()
LAST 60 DAYS	U U	0.0	8 0	0.0	0,0	0 0	0 0	0.0	a ti	0.0	ń
LAST 90 DAYS	9 0	0.0	0.0	0.0	C.C	Q, O	0.0	9.0	0.0	0.3	a
KCI 30R	0.0	n û	0.0	0.5	1.2	1.2	0.0	5,0	9.6 -	0.0	1
SAST 30 TAYS	9 5	0 0	0.0	0.0	0.0	0.0	ละ	0 0	0.0	9.0	i
MAST 60 PAYS	ο, φ	g o	0.0	9 0	D.O	9.0	0.0	0.0	0.0	C.U	η
HAST 90 DAYS	0 0	0.11	G. E	0.0	0.0	0.0	0.0	u O	C O	u.u	9
				nta frivaci							
PREPARED 24 NOV	2003 16:04		AIR	CRAFT BISHAP	INVESTICA	Tich (f	'A1	AS OF	24 NOV 2003	PCN SAU	36 HIO
NAME: PLINKOPP, CHO: ART	STEVEN WING: 005856564C		AUE: HAJ	SSAN: RGANI BATJOH:	055160650	API: 3			A DAFSC: QC		CB: 33
CURR RAYING: SER	ICR PILL		,	IRCRAFT TYPE	MH053M	5 BR 1	(A), NO: 625		Mishap eath	1: 23 NOV 3	2003
									**-		
				· · · · · · · · · · · · ·	R ALDURAF	r ***					
	Pri	SEC	Tom:	eval	OTHER	TOTAL.	PRI/INST	ntcen	UNS	SIN INS	SOM:
684053J	487.0	342.5	212.4	69 B	108.6	1220.3	699.4	311.4	1 14.4	35.9	555
LAST 30 DAYS	0.0	0 0	<b>0.0</b>	9 0	0.0	9 0		0.0	-	0.0	ถ
CAST 60 DAYS	0.0	0.0	0 0	0.0	0.0	9.0	0 D	9.4 9.4		ე. G ე. €	٥ 2
	V. <b>6</b>	00	4.8	3.6	0.0	9. <b>u</b>	3 4	٠.٠	0.0	V. 6	•
STHOSTA	14.2	17 0	<b>Q</b> , <b>Q</b>	0.0	0,0	31.2	14.2	0.4		0.8	1.1
#5" 30 DAYS	0.9	0.0	0.0	0.0	9.0	0.0	0.0	9,1		0.0	0
LAST 60 DAYS LAST 90 DAYS	0.0	0 0	0 0	0.0	0.0	0.0	Ø.0 0.0	0.1		0.0 0.0	a 0
SKS. 70 CMIS	0.0	0 0	9.0	0.0	0.0	0.0	0.0	0 1	3 U.Q	0.0	٠
TH053A	33.9	5.3	0.0	0.0	22 7	58.9	33.9	1.9		Ω.0	22
1.AST 30 TAYS	0.6	0.0	0.0	0.0	0.0	8 8	0.0	0,0		0.0	0
LAST GO DAYS LAST 90 DAYS	υ.o	g.ti	0.0	9.0	0,0	Ø. Ø	0.0	0,0		0.0 0.0	0
una. 30 unta	0.0	9. D	0.0	0.0	O. U	0.0	0.0	9,1	0.0	9. 0	Ū
_				· · · CAR	ER TOTALI	***					
CREW POSTETON	PRI	SEC	Inst	EVAL	OTHER	or year	PRIJET INST	STIDEN	COMMAT	TABROS	SORT
FLRST FLIGHT FAST PLIGHT	<b>光概</b> £	220	IMST	eat!	U FRANK	:47746	T:ME	o i sheeti	CWMONT	SUPPORT	6VA1
911A)F	825.6	523 7	325.8	71.2	195.2	1941.5	1151.4	351.8	89.3	24.0	953
25 OCT 1994 22 NOV 2003	ಶಕ್ತುರ 3	1 (2)	263.8	71.6	177.4	1341.3		796.6	, 53.3	49.0	2.40

## A. INDIVIDUAL FLIGHT DATA AND FLYING HISTORY REPORT (MC)

PERSONAL DATA - PRIVACY ACT OF 1974 (5 USC 552a)

PREPARED 23 NOV 2003 20:46 INDIVIDUAL FLIGHT DATA AS OF 23 NOV 2003 PCN SA036-F60

RANK: 1LT SSAN: 7 SEP 03 API: 1 NAME: RICHARDSON, CHRISTOPHER C PRI ACFT: MHOS3M CREW POSN: MC AGE: LEST PHYS: 17 SEP 03 API: 1
DAFSC: 09270 LST CHMB: 13 DEC 00 MAJCOM: SOC FAC: 1 ASC: 1A

(PART-1)

MDS:	MH053M	MH053J	SMH053M	SMH053J	SMH053J	MH053J	ACFT
CREW POSN:	MC	MC	MC	MC	QC CUANG	UP	TUTAL
SEO NO:	01	02	03	04	00	00	
TOTAL TIME:	79.5	1.3	15.5	0.6	118.8	157.6	238.4
PRIMARY:	41.2	0.7	7.5	0.0	78.5	109.2	151.1
SECONDARY:	26.0	0.6	7.0	0.0	35.8	21,1	47.7
INSTRUCTOR:	0.0	0.0	0.0	0.0	0.0	0.0	.0.0
EVALUATOR:	0.0	9.0	0.0	0.0	0.0	0.0	0.0
OTHER:	12.3	0.0	1.0	0.0	4.5	27.3	39.6
COMBAT:	43.6	0.0	0.0	0.0	0.0	0.8	48.6
CMBT SUPT:	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NVG:	40.0	0.0	5 6	0.0	4.0	45.7	65 7

TOTAL FLYING TIME: 237.1 151.1 238.4 TOTAL PRIMARY/INSTRUCTOR TIME: GRAND TOTAL: 450.3 MDS PRIMARY/INSTRUCTOR TIME:

## **B. 30/60/90 DAY FLYING HISTORY REPORT (MC)**

#### PERSONAL DATA . PRIVACY ACT OF 1974 (5 USC 552a)

PREPARED 23	NOV 2003 29:46	TNDTVTDUAL PL	IGHT DATA AS OF 23 NOV 2003 PCM SA036-P60
CREW POSN: M DAFSC: 092T	C AGE: LS	r Phys: 17 Sep 03 r Chmb: 13 Dec 00	
ATRORAFI	TYPE REQUEST: ALL	(PART :	AIRCRAFT MDS REQUEST: %
23 NOV 0.0		0 NOV 19 NOV 1	
13 NOV 0.0	12 NOV 11 NOV 10 0.0 2.6	0.0 0.4	08 MOV 07 MOV 06 MOV 05 MOV 04 MOV 0.0 0.0 0.0 0.0 0.0
03 NOV 2.4	02 NOV 01 NOV 3 3.0 0.0	1 CCT 30 OCT 2	29 OCT 28 OCT 27 OCT 26 OCT 25 OCT 0.0 4.7 2.5 0.0 0.0
	30 DAYS TOTAL E	FLYING TIME: 25.	3 CAYS PLOWN: 8
24 OCT 0.0		1 CCT 20 CCT 1	
14 OCT 5.8	13 OCT 12 OCT 1 0.0 0.0	1 ccr 10 ocr 0	09 OCT 08 OCT 97 OCT 06 OCT 05 OCT 0.0 3.7 3.0 1.0 0.0
	03 OCT 02 OCT 0		29 SEP 28 SEP 27 SEP 26 SEP 25 SEP G.O 0.O 0.O 0.O 0.O
	60 DAYS TOTAL I	PLYING TIME: 51.	7 DAYS PLOWN: 16
24 SEP 0.0		1 SEP 20 SEP 1	
14 SEP 0.0			09 SRP 18 SEP 07 SEP 06 SEP 05 SEP 0.0 0.0 0.0 0.0 0.0
04 SEP 0.0	03 SEP 02 SEP 0	L SEP 31 AUG 3	90 AUG 29 AUG 28 AUG 27 AUG 26 AUG 0.0 0.0 0.0 0.0
	90 DAYS TOTAL	PLYING TIME: 67.	DAYS FLONS: 20 · · ·

## C. FLIGHT TIME CATEGORIES AND FLIGHT CONDITION TIME SUMMARY (MC)

PERSONAL DATA PRIVACY ACT OF 1974 (5 USC \$52a)

PREPARED 24 NOV 95	16 T 15:36		A J RCRAF	T MISHAP	INVESTIG	ATION (F	A}	AS OF	24 Nov 2001	PON SAG	336-F2E	j		
NAME: RICHARDSON, 1950: SOC WI CURB RATUNG: PILOT	NG: 0016SOPMG		HHIAN	PATTON:	00205025 WHQ53M	O CSEM		HC'	(MAPSC): 092 ASC DATE: 14 MISHAP DATE:	JUL 200				
				*** XISBA	IF AIRCRA	ka mma								
	PRì	SET II	IST	EVAL	UTHER	Ttrial	PRI/ INST	NIGHT	185	SIM INS	SORT			
MEUS3M	41.2	26.0	n.e	0.0	22.3	79.5	41.2	28.5	1.4	2.3	3 1			
LAST 10 DAYS	15.2	• •	J_ C	0.0	1.2	25.3	15.2	9 <b>5</b>	0.0	3.3	5			
AST 60 DAYS			0.0	0 0	3.2	51.7	39.4	22.6	1.1	3.3	21			
1402 20 14111	34.4	22.4	). G	0.0	8.9	65.7	34.4	16.5	1,1	1.6	25	<b>S</b>		
					RAIRCEAF									
	PRI				UTHER		PRI/INST	NIGHT		STM INS	হণকে:			
MHOSSA  AST 30 DAYS	109.3 U.C		). () }_()	0.0	27.3	158.9	[49.9	15.0	1.0	0.0	55			
IAST 60 DAYS	0.3		).0 ).0	0.0	0 B 0.0	0.0 0.0	0.0 5.0	n.0 e.0	0.0 0.6	ປ.ບ ຄຸດ	G Q			
LAST 90 DAYS	8.7		). 0	0.0	9.0	1,3	D.7	0.0	0.6	8.0	1			
SMEGERM	7 5		1.13	0.0	1.0	15.5	7.5	9.0	8.6	2.0	4			
IAST 30 DAYS	მ.ნ შ,ნ		1, # ), #	0.0 0.0	0,0 0,0	0.5 0.8	0.0 0.0	<b>8.</b> 0	0.0 0.0	0.Q U, U	η υ			
TAST 90 DAYS	5.5		i. 0	e e	n o	0.6	1.0	8.0 8.0	u.¢	3.6	9			
\$400533			), U	0.0	4.5	116 6	78.5	2.3	0.5	5.0	32			
LAST 30 DAYS	8 6 0, 0		i, i} I, B	0.0	0.0 0.0	0.0	0.0 0.0	0,0 0,0	0.0 0.0	0.6 0.6	() ()			
LAST 90 DAYS	0.0		1, 1)	0.0	0.0	v.o	0.0	ນ.ນ ຍຸວ	9.6	9.0	0			
Kiius li			:. 6	b d	27.3	158.9	109 9	35.b	1.0	0.0	55			
(AST 3% DAYS				ሳ.¢	د.بد 3.0	120.3	0.9	0.0	0.9	9.0	5 5			
LAST 50 DAYS	5.5		.0	8.0	0 n	0,0	0.0	0.5	0.0	0.0	ő			
LAST 90 DAYS	υ. <del>.</del>		3	u C	0.0	1.3	0.7	a p	0.0	8.5	)			
		3	"现在各种特色"。	DATA	PRIVACY	an's or	1911 (5	UST 352 <b>e</b> )						
PREPARED 24 MOV	iras leija		S	ercrapy	MARKE S	: MVEST!	gar dur 🗀	<b>*</b> # 3	AS 07	e nem	1561	PCIN	ВДÜ	ل - يا لا
NAME: RICHARDSON UMB: SEX! (BRR RATING: PIL	WINE: 001650		DE: Ler	ORGANI Z			Sy (Feb		nsc: Ia 1: % 25		75: 14	्राधाः	液化性	
				• 1	· other	ATRCRA	FT ***							
	2F.1	SE	I NST	EV	'Ab !	NIHED	TOTAL	PRI/INST	· Right		ius	51M	18S	54
TNHOG 1.1	7e 5	15 8	4.11		<b>3</b> (2	4.	119.2	78 3			tr. ii		₹.e	\
Springer - Lary 30 thans	** 7 0,6	25 A 21.U			* 1≱ 1.\$	9.2 D 6	110.c	** :			u.e		2.€	
UAST ES PAYS	មុ.ស ស្.ស	2.G	<b>U</b> ⊥ (1:3)		1.¥ 3.€	e,t	0, e	# A			0.0 0.0		5 5	
LAST 96 DAYS	<b>K.</b> 0	± ±	4. 11	-	s D	6 0	2.3	0.7			<b>U.</b> Ú		ŭ. j	
				*	** CARE	er Tuta	(¥ ·^•							
PREM PRESTATION PIRST FLIGHT CAST PLIGHT	139	28%	PEK 1	EZ	' <b>A</b> £- (	PERE	<b>ፓርም</b> ት፤	PRI/INST TIME	STUDENT	Cils	BV1.	COME		5₹
10040 2002 ENDA 52 22 NOV 1003	45: 1	47 (	1, .41	Q	2 a	3.8£	239,4	151 1	21: 9	<u> 2</u>	₽.€		< 3 × 3 × 3 × 3 × 3 × 3 × 3 × 3 × 3 × 3	

## A. INDIVIDUAL FLIGHT DATA AND FLYING HISTORY REPORT (MRS)

#### PERSONAL DATA PRIVACY ACT OF 1974 (5 USC 552a)

ame: Kerwood,						San :		PRI ACPT:	
REW POSN: IF		E:					FAC:	A ASC:	CA
DAFSC: K1A171			LST CHMB:	27 JUL 0	O MAJ	COM: SOC			
				PART	-1)				
MDS:	VE50HW	TESOHKS	MHOS3N	SMHC53N	UHOOIN	STH053A	T11053A	NCRO53J	ST001G
CREW POSN:	ſΡ	lF	1 F	1 F	XF	IF	iP	nf	MG
SRQ NO:	81	0.2	r n	Ω¢	05	on	en	60	an
TOTAL TIME:	3275.9	154.7	729.6	6.3	390.5	12.0	19.2	4.5	10.0
PRIMARY:	2735.0	134.9	637.0	4.3	377.6	6.0	19.2	4.5	10.0
SECONDARY:	5.1	Π.Ω	2.0	0.0	11.1	6.0	0.0	0.0	0.0
: SCTOUSTENT	61.2	0.0	54.7	0.3	0.0	0.0	0.0	0.0	0.0
EVALUATOR:	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER:	67.7	19.8	35.9	1 7	1.8	0.0	0 0	0 · n	n o
COMBAT:	10.0	0.0	150.0	0.0	0.0	0.0	0.0	0.0	0.0
CMST SUPT:	159.3	0.0	39.5	0.0	0.0	0.0	0.0	0.0	0.0
NVG:	297,9	n.a	197.7	0.0	0.0	0.0	0 0	n n	8.0
MDS:	SH052G	8052G	CH053A	ACF	T				
CREW POSN:	MG	MG	UP	TOTA	a.T.				
SEQ NC:	0.0	00	0.0						
TOTAL TIME:	103.9	787.6	24.0	4231.	3				
PRIMARY:	103.9	772.6	24.0	3969.	9				
SECONDARY:	0.0	1.0	0.0	19.	2				
INSTRUCTOR:	0.0	0.0	0.0	121.	9				
EVALUATOR:	0.0	0.0	0.0	0.	9				
OTHER:	0.0	14.0	0.0	119.	4				
COMBAT:	0.0	0.0		160.					
CMBT SUPT:	0.0	0.0		198.					
NVG:	0.0	0.0	0.0	490.	6				

TOTAL FLYING TIME: 4231.3 TOTAL PRIMARY/INSTRUCTOR TIME: 4351.2 GRAND TOTAL: 4231.3 MDS PRIMARY/INSTRUCTOR TIME: 4091.8

## B. 30/60/90 DAY FLYING HISTORY REPORT (MRS)

#### PERSONAL DATA - PRIVACY ACT OF 1974 (5 USC 552a)

PREPAR	ED 23	VOV	2003	20	:45		IN	IVI	DUAL	FLIC	HT D	ATA	AS	OP	23 NOV	7 20	003	PCN	SA036-F60
NAME: PO	erwood SN: 19 K1A171	, <b>W</b>	ILLIA A	M J Ge:		LST LST	PHYS CHMB	: 30 : 27	RANK JUL JUL,	03 00	et M	SSAN API: AJCOM	: : A : 500		FAC:	PI A	A IS	CPT: ASC:	MEOS3J CA
Al	RCRAFI	ציד י	PE RI	BQUES	T: AI	Ĭ.			(PAF	r-2)		AIRCE	RAFT	MDS	REQUES	T: (	B		
															NOV 8.0				
															VOW 0.0				
נס	NOV 2.4	02	NOV	01	VCM	31	OCT	30	OCT	29	oct	28	OCT	27	OCT 0.0	26	ост	. 25	OCT
			30	DAYS	тот:	AL FI	YING	TIM	E: 2	5.4		DAY	s fla	) HW	7				
			0.0												oct 1.5				
	OCT 5.8		OCT 0.0		OCT 0.0		CCT 0.0								OCT 0.0				0.0
04	OCT 5 7	03	OCT 0.0	02	0.0	01,	0.0 0CT	30	SEP 1.0	29	SEP	28	SEP C.O	27	SEP 0.0	26	SEP	25	SEP 0.0
			60	DAYS	TOT	al Pi	DKIY	'l' IM	E: 5	4.5		DAY	s flo	: uw	18				
	SEP 0.0		SEP 0.0		SEP 0.0		SEP 0.0		SEP 0.0	19	SEP 0.0	18	SEP 3.7	17	SEP 2.0	16	SEP	15	SEP 0.0
	SZP 0.0	13	SEP 0.0	12	SEP 0.0										SRP 0.0			05	
	SRP 0.5				SEP 0.0										AUG 2.0				

--- 90 DAYS TOTAL FLYING TIME: 74.0 DAYS FLOWN: 27 ---

## C. FLIGHT TIME CATEGORIES AND FLIGHT CONDITION TIME SUMMARY (MRS)

PEUCH IN MITTER WEIGHT PARTIES ATTEC JAMINGSEN (ARTSELL PARTIES)

PRESARD 14 NOV 2004 16:14

AS UP 25 MOV 3003 TON SAUSE-P40

MAMO E BORNETO CMU: SOC CSING RATING:	साहर, इंडर ) साहरू (वेह) हुल्लासा			upganization: Alm hapt type			PERMITERS I AL NO: 10 16		er etan 13ak Etan Baherk			
				··· Kish	ap albur	4P - +++						
	94K (	SEC	(MST	2VAL	o Mire	(8)(8)	PRI/INST	236327	ING	SIK IKS	50K%	
MH051H	557.0	<i>i</i> 3	14 7	ត ត	15 3	719.6	693.7	15€ €	<b>0.</b> 0	\$ 3	323	
LAST Nº BAYE	25 1	5.3		<b>a</b> a	2 €	25.4	22 6	14 4	B 🔞	2 3	8	
LAST TO DAYS	:0 ಕ	4.3	6.7	6.5	3 h	54.5	42.3	23 %	ថ ប	23 - 62	23	
CART NO FAYS	44 ;	7.4	11.4	4.2	1 5	83 %	46.5	33.7	n a	<b>U</b> 0	87	
				*** 0:(4)8	s linera	FT ***						
	理:	35	TNET	STAL.	1:( <b>412</b> 8	iutal	PR1/1957	R 3 (1101	: <b>N</b> = (	SIM INS	soat	
ME053./	7055	5	\$7.3	<b>u</b> .,5	67 7	2275.9	0762 2	3121 %	H . 60	3.8	មនិង	
LAST 16 DAYS	0.0	ú i)	9.5	0.0	€ €	9,6	4.4	9 (1	13,41	å پ	12	
LARY 60 14YS	11,.4	હે, છ	6) (1	0.0	<b>Q</b> 3	0.0	3 (1	β c	<b>U.</b> 3	¥.\$	N4 +2	
TVES DE IMAN	2 %	2.3	3 4	0 5	₽ }	5.2	4.5	≟,0	0.5	6.5	2	
S1490-15 13	130.9	11 13	<b>6</b> 9	() F	19 8	154.7	134.3	10.5	19. g	<b>u.</b> u	# <del>4</del>	
LAST SE MYS	4.0	1) G	11 👍	\$ ₩	ti.5	9,⊈	11 0	6.0	Ŭ Đ	E O	6	
STAL VE TEAL	\$ #	e ⊈	沙,じ	6.35	0.5	a c	<b>5</b> 0	f: , f	9.0	ช. ย	ti-	
LAST 90 HAYS	9 😘	p c	÷ 73	9 <b>9</b>	#1.59	2.3	6.0	€, €	G U	6.3	Ď	
OMNOS SM	4.3	or ti	1 7	a n	1.1	6 3	4.9	1 2	U 70	r; 1}	3	
LAST 10 DAYS	0.0	9.0	9.0	8.4	9.0	Q &	G, FI	3. \$	n.a	6 #	a	
LAST FIL DAYS	9.3	9.U	8 9	<b>() 41</b>	6 15	6.0	0.0	s (y	9.0	5 5	₹,	
fwat be nave	4 ?	1. f.	9.4	9.0	1 .	0.3	4.6	1 4	ា ផ	5.5	ż	
126#-1 <b>9</b>	6,11و	:::	5-8	a a	1 8	1500.5	CV 6	٠. 4	ټ يا	.».3.	3 ) 11	
LAST BY LAYS	yr, €	3.0	Э.В	(¥ <b>, :</b> ‡	; 5	0.⊯	\$ Q	4.4	6.5	.x #1	-	
ALANS CO. HAYS	I# . 41	હાં. છ	a, u	त है	1.4	6.0	8 2	8.5	9.1	1.4		
1ASC 95 1AVE	$\mathbf{a}_i \mathbf{e}$	‡. u	9.0	្ ⇔	· 4	<b>6</b> 9	្ ស	6.3	Ö,₽	0.6	13	
PREPARED 24 N	464 : 1865 VO			a lectast	RISHAP	ENVEST!	GATION (PA)		AS DE	24 NOW	2004 PC	M SAUGE FA
	ov fork lede. S. William J		/		Mishap An:	18488777	HATION (PA) API: A	FAC: A			ides pr 1914: TialVI	n saulb Mee:

MAND: FERNOOD, WILLIAM J GRAME: TSGT SHAN: API: A FAC: A GSC: CA CAFSC: KIALVI AGE: CMD: SGR: WING: DG1880FWG GRAME: TSGT SHAN: CG2GGDFSQ CREW FOSITION: (P ASC DATE: 18 MOV 2003 CUBR RATING: AFFCRAFT TYPE: M8053M SERIAL NU: FU-1625 MISHAP DATE: 23 MCV 2003

				*** গ্ৰে	HER STRODA	ET COM					
	PRI	<b>多観</b> じ	:NST	eval.	OTHER	TOTAL	PRI/INST	RIGHT	1219	SHE HES	9087
80520	772.6	" ≉	<b>a</b> . o	5.0	14.0	182.€	272.6	3.0	<b>9</b> .11	<b>1.0</b>	: 19
LAST NO DAYS	<b>a.</b> 6	Ç û	<b>9.9</b>	$\mathbf{g}$ , $\mathbf{c}$	D , D	9.0	១.ព	a, o	<b>ວ</b> ຸກ	3.3	9
CAST 60 DAYS	0.0	₽.\$	a. e	5). Ü	9.0	0.0	9.0	<b>4.0</b>	<b>9.</b> 0	3.4	9
last 95 lays	0.6	<b>D</b> = <b>D</b>	0.0	0.0	0.6	0,₽	9.0	ាត	Ð, G	9.2	0)
CH051A	24,5	o a	٥.٥	0.0	0.0	24,0	24.6	2.6	n,n	<b>3.3</b>	10
LAST 10 DAYS	C. 9	ត ១	<b>0</b> 0	0.0	ð,ß	9.0	0.0	2.6	0.0	₹.0	9
CAST 60 DAYS	<b>3</b> 3	0.3	5.0	0.0	0.0	9.0	9.0	3 0	តិ,ខ	3.0	0
Cast 90 Days	2.5	0.5	<b>D</b> . 34	ត. ព	0,6	9,6	n,a	3.6	0.4	3.8	IJ
Mark \$ 1.1	4.5	0.0	<b>5</b> , 0	0.0	9.0	4.5	4.5	5 6	0-9	0.0	3
LAST 30 DAYS	<b>₽.</b> ₽	û.5	۵.۵	0.0	9.0	0.0	0.0	<b>\$.6</b>	<b>0.</b> 8	C.0	Ű
LAST 60 DAYS	0.0	0,0	0.0	0.0	0.0	9.0	0.0	5.0	O A	<b>5</b> 9	ী
LAST 90 DAYS	0.0	0.0	N, U	Q - 2	0.0		9 6	D 0	Ø . 9	0.0	2
<b>\$7301</b> 13	16.9	6.0	0.0	<b>C</b> 8	<b>4.6</b>	10.0	io s	n e	ត្ ប	e s	ŧ
LAST 10 DAYS	<b>€</b> . <b>∂</b>	4.0	0.0	Ω, Φ	G 4	<b>3</b> .6	٥.٥	0.4	ម.ម	6.0	٤
LAST 60 DATS	0 បិ	3.3	0.9	0.5	0.8	0,8	\$ 0	ο. έ	B 0	6.3	ព
last 90 maxs	6.0	g 14	a u	0.9	0-8	00	5.5	0,5	9.0	Ø. 3	Ç
RESUIS IA	€.0	6.3	ø. U	09	0 0	12 0	£.5	6.5	គ , ព	9.0	6
LAST 30 DAYS	₹, ♦	<b>2 3</b>	ថ្ល	ក ១	Ø 0.	0,0	p.n	9.9	0.0	9.5	(i
LAST OF DAYS	8 9	0.3	9.9	0.0	0.0	0.0	0.9	0.0	ti ti	a n	- 6
Last 90 Days	ij Ç	6 G	a.s	n a	0.0	0.0	0.0	3.9	8.0	្ច. ប	41

PERSONAL LARA - PRIVACY MET OF 1974 15 USE SEZAL

PREPARED 16 NOV 2003 16:16 Afficiant Kishar investigation (PA) —— As of 24 nov 2003 for Saule fig

NAME: KESNOVSI, X THD: SOU CURS RATING:	Nama a WM3: ogsesomen				W. DOZGSOPS; PE. MAGSJA		A FAC: A N POSITION: NAI: NO: 70-		Dafsc: K Abr Tate: : Mishaf Dam	es Nav 200	
					*****						
					BER ALBURAY						
	PAT	೧೯೯	inst	evai.	OTHER	total	FR] / [#57	REGRE	INS	els etc	Sort
Swith It	:64.9	0.0	2.2	9.9	b.0	103.5	101.5	0.0	\$ . \$	o p	₫.ს
LAST IS DAYS	8) B	à a	6.6	0. ១	O D	<b>3</b> §	៦១	# N	6.3	0.0	fi
last of mars	9.0	2 O	4 Ø	្ស. ម	0.0	# · D	5 3	42 M	ធ្វ	Ů, ů	6
Pari. 82 Dair	6-9	5 9	\$ <b>\$</b>	ត្ ត	6-8	n ., c	₽.₽	6.4	<b>t</b> ; . 2	6 6	Į i
meista	19,2	9-3	Ş.&*	0.0	ម.ម	19.2	15.2	n s	qξ	6 6	9
LAST HE THITS	n ä	ĝ <b>ĉ</b> .	8.5	0.0	ň,ū	D.5	0.5	<b>ប</b> ្ន	6.1	0.0	73
LAST GD DAYE	0.9	₫, C	Ø. Q	Ð,0	8.0	<b>D</b> B	៦. ម	6 3	ជ ខ	6.0	ß
erst 95 days	a a	e 5	3.0	กิจ	กล	g is	5 9	<b>C</b> . \$	ទទ	6,9	<b>\$</b> 3
				_ (%)							
CREW FORITHM				* * * (2)	areed kolais	***					
PIRST PLICES	981	387	inst	EVAL	1/THER	TOTAL	PRI/INST TIME	Student	COMBAT	CAMPACAS	SURT
ASRIAL GUNCHER 1986 - FRR 145 35 DEC 1988	172.5	1 3	ng .3	y ø	14 8	787 6	112 h	ń c	å é	6 6	129
FITGET EMTINESA 30 MAS 1985 32 MAY 2003	∄   पण - ६	15 4	(2) 9	9.5	196.≰	3 <b>44</b> 1 7	38 <b>39</b> 3	6.1	160.6	178.9	1584

### A. INDIVIDUAL FLIGHT DATA AND FLYING HISTORY REPORT (MFE)

#### PERSONAL DATA - PRIVACY ACT OF 1974 (5 USC 552a)

PREPARED 23 NOV 2003 20:48 INDIVIDUAL FLIGHT DATA AS OF 23 NOV 2003 PCN SA036-F60 RANK: SOOT SSAN: NAME: WALKUP, THOMAS A PRI ACFT: MHOSIJ CREW POSN: MF AGE: LST PHYS: 29 JUL 03 AFI: A FAC: A ASC: AA LST CHMB: 06 MAY 02 MAJCOM: SOC DAPSC: 1A111B (PART-1) MDS: MH053J SMH053J MHO53N SMHO53N ACFT MF TUTAL CREW POSM: MF MF MF 02 6.3 04 SEQ NO: 0.1 TOTAL TIME: 190.5 115.8 103.7 0.0 294.2 90.2 255.3 PRIMARY: 165.1 79.5 0.0 SECONDARY: 0.5 0.0 0.0 0.5 0.0 0.0 INSTRUCTOR: 0.0 0.0 0.0 0.0 EVALUATOR: 9.0 0.0 0.0 0.0 0.0 OTHER: 36.3 73.5 38.4 24.9 0.0 D. 0 0. 0 0.0 0.0 53.6 COMBAT: 53.6 0.0 0.0 CMBT SUPT: 0.0 9.0 28.9 39.9 0.0 0.0 68.8

TOTAL FLYING TIME: 294.2 TOTAL PRIMARY/INSTRUCTOR TIME: 334.8 GRAND TOTAL: 294.2 MDS PRIMARY/INSTRUCTOR TIME: 255.3

## **B.** 30/60/90 DAY FLYING HISTORY REPORT (MFE)

PERSONAL DATA PRIVACY ACT OF 1974 (5 USC 552a)

	CHERODIAN DATE	initaci aci	OC 1514 12 000 350	24,
PREPARED 23 NOV 2003	20:48	INDIVIDUAL FLIG	HT DATA AS OF	23 NOV 2003 PCN SA036 - F60
NAME: WALKUP, THOMAS A		RANK: 590	T SSAN:	PRI ACFT: MR053J
CREW POSN: HE AG	E: LST PR	RYS: 29 JUL 03	API: A	PRI ACFT: MR053J FAC: A ASC: AA
DAFSC: 1A111B	LST CE	HMB: 06 MAY 02	MAJCOM: SOC	
AIRCRAFT TYPE REC	QUEST: ALL	(PART-2)	AIRCRAFT MDS	request: %
				NOV 15 NOV 14 NOV
0.0 3.7	0.0 5.	0.0	0.0 0.0	0.0 0.0 0.0
			NOV 07 HOV 06	
0.0 0.0	2.6 0.1	0 1.4	0.0 0.0	0.0 0.0 5.3
() =				
03 NOV C2 NOV	OI NOV 31 CC	T 30 GCT 29	OCT 28 OCT 27	OCT 26 OCT 25 OCT 4.2 0.0 1.7
2.4 0.0	0.0 0.1	0.0	8.6	4.2 0.0 1.7
># 30 t	SAVO HYMMAI, PLVII	NO TEMP. SO S	DAYS FLOWE:	0
***	Serie start that t	110 141111 50.2	DAID PBORG.	•
24 OCT 23 OCT	22 OCT 21 OC	ידי 20 מכידי 19	OCT 18 OCT 17	OCT 16 OCT 15 OCT
0.0 0.0	0.0 4.3	3 0.0	1.4 0.0	2.0 0.0 0.0
; <del>-</del>				
14 OCT 13 OCT	12 OCT 11 OC	T 10 OCT 09	OCT 08 OCT 07	OCT 06 OCT 05 OCT
5.8 0.0	0.0 0.6	0.0	0.0 3.7	0.0 3.0 0.0
				•
04 OCT 03 OCT	05 OCL 01 OC.	T 30 SEP 29	SEP 28 SEP 27	SEP 26 SEP 25 SEP
5.7 0.0	0.0 0.0	0 1.0	1.0 0.0	0.0 0.0 0.0
60 I	DAYS TOTAL FLYIA	NG TIME: 58.0	DAYS FLOWN:	18
24 SEP 23 SEP	22 552 22 52			000 10 000 15 000
				SEP 16 SEP 15 SEP 0.0 0.0 1.3
0.0	V.5 V.	0 0.4	2.2	0.0 0.0 1.3
14 SEP 13 SEP	12 SEP 11 SE	P 10 SRP 69	SEP OR SEP 07	SEP 06 SEP 05 SEP
0.0 0.0	0.0 1.5	5 0.0	0.0 0.0	0.0 0.0 0.0
01 SEP 03 SEP	02 SEP 01 SE	P 31 AUG 30	AUG 29 AUG 28	AUG 27 AUG 26 AUG
				0.0 1.8 0.0

--- 90 DAYS TOTAL PLYING TIME: 76.0 DAYS FLOWN: 25

# C. FLIGHT TIME CATEGORIES AND FLIGHT CONDITION TIME SUMMARY (MRS)

			PERSUNAL DI	aid PRIVAC	y action i	(976) (S. F	₩C 55201						
Preparki 24 Nov 2003	\$6:36		ATRO	TRAFT MISHAP	ONESTICA	त्र स्था । इत	#1	AS SF	31 NOA 3053,	PCD SA	716-F20		
name: Harktef, Thomas Ott: Skri Wilk CTBB RATING:	i A I ngj <u>s</u> gomud	ST.		SSAN: RGANIZATION: IRCPAFI (198		CREW		ME	DAFSC: 1A1 ASC DATE: 13 MISHAP DATE:	JIM 200			
				*** X:SE	AP A (BCILA	rit. •••							
	<b>-</b> #₹‡	£\$X*	mst	eyat,	0 छाउँ ह	TOTAL.	931/1757	HIGHT	Ins	SIN IKS	NORT		
485 314	98 2	8.0	9.2	0.0	13.5	165. 1	9# 2	48.5	<b>3</b> , <b>0</b>	6.0	45		
AET 30 DAYS	25.9	3.3	2.0	0.0	4.2	30.1	25.9	18,5	3.3	¢.\$	12		
LAST 60 DAYS	51.3	a 5	4 \$	0.6	4,9	50.3	SLE	11.0	A 6	6.0	53		
CART OF TRAI	53 6	3 0	4.5	9.0	; :. 1	14.0	6ì.i	17.5	3 2	र ६	21		
				··· otes	e alecrafi								
	521	SEC	ther	EVAT.	OTZER	TOTAL	२२१/ राष्ट्रा	MIGHT	125	SIK IKS	#ORT		
06053	165.1	0.5	a.a	a <b>a</b>	24.9	190.5	165.1	73 6	ë.u	0.6	63		
(235) 10 D27S	0,3	5.0	0.0	ซ ก	2 5	2 0	6.9	3.0	១.ព	0.0			
LAST SO DAYS	7.3	5.0	2.5	3.3	5.5	5.9	0,0	2.0	9.0	9.0			
HAST 90 DAYS	1 3	0.0	3.9	ę,a	6 D	1 1	1 - 1	≎ હ	p, n	n. e			
<b>30</b> 10 <b>5</b> Lt	19 5	6.5	2.0	6.3	56.3	175.8	75.5	2.5	0.4	ກ.ຮ	32		
		(1, p)	:: 3	6 4	: <b>*</b> )	5.4	0.9	3 3	5 (1	9. e			
LASE IN MAYS LASE SU LATS	6 3 8 3	ລຸຄ	5.0	સંગ ઇ. <b>0</b>	# . <b>5</b>	8.0	6.0	2.4	0.0	9.g	_		
GAST SO PATS	કુત હ,ઇ	5.U	2.0	0,0 2-8	8 6	8.9	9.0	2.0	9.0	9.0			
			-,0	• •			•			4. 4	•		
P#1053M	લ ગ	ə. <b>b</b>	<b>5,</b> 0	ù. J	3,5	6.0	0.0	9.3	ş.u	0.0	ij		
LAST 10 DAYS	e. a	0.0	ម.ម	. 99	€	9 4	9.9	5 (I	9.4	p, e	9		
LAST GO DATS	G Cl	o ti	2 0	<b>6</b> 4	<b>3</b> 0	\$.0	9.0	2.0	ā.a	0.0	9		
las Pou Dats	ন : ট	e. <b>s</b>	Ü.9	G 3	¢,t	<b>ా.</b> 9	G - 3	3 3	Q.Q	₩. ₽	9		
			Peri	ednai. Data	\$91VAC	v act b	1 <b>7</b> 1974 (4	5 VSC 55	(a)				
PREPARED 24 NOV	2000 <b>1</b> 633 <b>8</b>	t		ATROPA	T MISHAP	INVEST	HOITADI'	PA?	<b>AS 0</b>	7 24 N	OV 2003	PÖN SAD	5€ F2-
HAME: WALLAUP, THE EMB: SQU CURR RATING:	1845 3 8184: 99169	(i poki	Grade	CRUA	san: Kization: Raft Type		API: 1794 (3:1 M 325		ion: Mp	ASC :		1118 A 1 Jun 2001 23 NOV 2	
					TO CAR	eer Tim	ALS ***						
CRRN PUSITION													
FIRST PLIGHT	991		32C	INST	eval	other	TOTAL	PRI/IS TIME		យ ខ	TABBO	Cimbat Suppurt	SCR
FL:GHT ENGINEER													
17 dVt. 2002	255 1		8 5	<b>o</b> 3	<b>0</b> . <b>3</b>	33.4	294 3	253	8.3 6.	ð	53.4	a, o	10

22 904 2003

### A. INDIVIDUAL FLIGHT DATA AND FLYING HISTORY REPORT (MLS)

PERSONAL DATA - PRIVACY ACT OF 1974 (5 USC 552a)

INDIVIDUAL FLIGHT DATA AS OF 23 NOV 2003 PCN SA036-F60 PREPARED 23 NOV 2003 20:45 PRI ACFT: MH053J NAME: WALTERS, HOWARD A RANK: TEGT SEAN: API: A CREW POSN: IG AGE: LST PHYS: G2 DEC G2 FAC: A ASC: AA DAFSC: Kla771 LST CHMB: 14 NAR 00 MAJCOM: SOC (PART - 1) MDS: MH053J MH053M SMH053J STH053A TH053A TOTAL ACFT CREW POSN: IG IG 10 .IG 18 SEQ NO: 01 0.2 03 00 00 TOTAL TIME: 1716.9 86.9 7.5 0.0 180.9 1984.7 PRIMARY: 1403.5 77.1 7.5 0.0 154.9 1635.5 SECONDARY: 0.0 0.8 0.0 0.0 a.n 0.8 6.5 0.0 0.0 22.0

0.0

0.0

0.0

0.0

0.0

0.0

4.0

0.0

0.0

2.4

290.1

0.0

58.3

95.9

4.0

985.1

TOTAL FLYING TIME: 1984.7 TOTAL PRIMARY/INSTRUCTOR TIME: 1933.1 GRAND TOTAL: 1984.7 MDS PRIMARY/INSTRUCTOR TIME: 1925.6

0.0

0.0

0.0

0.0

0.0

INSTRUCTOR:

EVALUATOR:

CMBT SUPT:

OTHER:

COMBAT:

261.6

0.0

51.0

4.0

928.4

30.2 65.7

0.0

0.0

54.3

3,3

## B. 30/60/90 DAY FLYING HISTORY REPORT (MLS)

#### PERSONAL DATA - PRIVACY ACT OF 1974 (5 (ISC 552a)

PREP	1R2	D 23 N	vc	2003	20:	45		IND	<b>tV</b> ti	oua.i	FLIG	HY? D	ATA	AS	OP :	23 NOV	20	03 1	PCN S	A036-F60
CREX	POS	LTERS, SN: IG K1A771		WARD A	a ge:		LST LST	PHYS: CRME:	02 14	rank Dec Mar	: Т\$C 02 00	IT M	: ASAN : AP1 : MODLA	A SOC	•	FAC:	PR A	y T VC	FT: 1 SC: 1	Mesij Ka
	AII	CRAFT	J.A.	PE RE	GORS.	ľ: AL	L			(PAF	rr-2)		AIRCR	apt	RCIM	REQUES	T: 1	:		
		NOV 0.0		NOV 3.7		NOV 0.0	20	NOV 5.0		NOV 0.0	18		17			gov 0.0		МОV 0.0	14	NOV 0.0
		NOV 0.0	12	NOV 0.0	1:	NOV 2.6	10	VCM 0.0	09	NOV 1.4	80	NOV 0.0		C.O	06	NOV 6.0	05	иоv 0.0	04	NOV 5.3
		NOV 2.4		NOV 0.0		NOV 0.0	31	OCT 0.0		CCT 0.0		0.0		0CT 4.7		OCT 0.0		OCT		ocr 1.7
			٠.,	30	DAYS	тот	AI. FI	YING '	MIT	B: 2	26.8		DAY	s fl	omn :	٤		-		
	24	0.0	23	OCT 0 . ¢		0011 0.0		OUT 4.3								OCT 0.0				9CT 1.7
		OCT 5 . 8	13	OCT 0.0	12	OCT O.O	11	0.0	10	CCT 0.0		CCT 0.0		<b>0CT</b> 3.7		0CT 0.0		00T 0.0		OCT 0.0
		OCT 5.7		OCT 0.0	02	OCT 0.0	G1	OCT 5.2	30	sep 0.0	29			8RP 0.0		SEP 0.0				SEP 2.7
				60	DAYS	מצאד	al Fi	LYING	TIM.	<b>E</b> : !	i8.3		CAY	s fl	own :	17 ~		•••		
		SEP 1.2	23	SEP 0.0	22	SEP 2.0		SEP 2.2		SEP 0.0		SEP G.O	18			SEP 0.0		SEP 0.0		SEP 3.4
		SEP 0 0	13	SEP 0.0		SEP 0.0	11	SEP 0.0	10	SEP 0.0	09	SEP C.O		sep C.O		SEP 0.0		5EP 3.2	05	SEP 2.5
	04	SEP O.O	03	SEP 0.0	02	58P 0.0	01	SEP 0.0	31	AUG 0.0	30	AUG 0.0		<b>AUG</b> 0.0	28	AUG 0.0	27	AUG 0.9		AUG 0.0
				90	DAYS	TOT	al. Pi	YING	TIM	B: 1	13.7		DAY	S FL	OWN:	24				

## C. FLIGHT TIME CATEGORIES AND FLIGHT CONDITION TIME SUMMARY (MLS)

PERSONAL DATA - PRIVACY ACT OF 1974 (5 USC 552a)

PREPARED IS NOT	2001 38:37		A.	LRURAFT MISHD	e investic	i Molter	FA)	AS OF	24 NOV 2023	e den ent	116 FZ0
RAME: WALTERS, CHO: SOC CURE PATING:	HOWARD A KING: COLESCONS		e: Test	r esan: Organization Aircraft typ			r fac: A r for item an Ro: 162		. Dapse: Ki Asc Date: 2 Hishap Date	6 AUG 199	
				*** 1918	HAP AIRCE	FT ***					
	797	SEC	7887	EVAG	OTHEE	TOTAL	PRI/INST	n coat	2931	SIM ING	1902
X405 114	77 }	Ç. P	<b>5</b> 9	2.0	2 . 1	65 9	31.€	50 1	0.0	9.0	33
LAST 10 DAYS	23.5	9.0	5,5	0.0	3.3	26.8	23 5	15.4	3.0	0.5	3
last so bays	52 8	<b>ಜ.</b> ರ	(.?	6 . D	1, 1	57.3	55 0	33 : 6	0,6	9.8	20
Tyel as Dyar	€6.3	۶. u	\$.2	ធ.ប	1.1	73.7	76 🐇	43,8	9.0	9.0	28
				*** 018	ier aircrae	FT =4A					
	PRT	550	INST	EVAL:	OTHER	TUTAL	PRI/INST	richt	1612	sim ing	SORT
MH053CF	1401.5	ů, š	263.6	¢.5	52.0	3716.9	1665 - 1	551 :	\$.5	ā.c	653
LAST IN DAYS	<b>ា</b> ៦	( a	6.0	0.8	ë o	6 9	9 0	6,0	0.0	ð,6	5
LAST SO DATS	<b>3.</b> 8	0.0	6.0	6.5	6.0	<b>p.</b> p	0.0	0.0	9.9	ា.ស	2
hast on days	Ö 3	6.9	0.9	<b>€</b> ŝ	C.O	0.0	0.9	0.0	9.9	9.6	ε
\$2550 5 Tu?	7.5	6.5	6.5	¢.ä	6.5	7.5	2.5	0,0	9.9	ð , <b>5</b>	2
DATE TO BAYS	<b>3</b> B	6.0	5.0	0 8	6.0	0.0	6.0	0.0	ə.a	a. b	3
last so days	D. ft	č.o	0.9	ä.B	0.0	0.0	0.0	0,0	0.0	\$ .6	g
last eg days	<b>\$</b> \$	€ ; or	ø,ø	g g	<b>6</b> . 0	r: ŋ	g. 9	5,3	5.0	p. <b>p</b>	3
Aleohia	g. s	¢.5	6.5	6.8	0.0	0.0	6.0	0 0	<b>9.</b> a	<i>a</i> <b>b</b>	ü
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## A. INDIVIDUAL FLIGHT DATA AND FLYING HISTORY REPORT (MTS)

#### PERSONAL DATA PRIVACY ACT OF 1974 (5 USC 5524)

MAME: LOPEZ, W	ayne c			RANK:	5M6 357	an:	p	RI ACFT:	MHO53M
CREW POSN: MG	AGE	<b>:</b> :	LST PHYS:	10 SEP 0	3 AF	PI: A	FAC: A	ASC:	BA
DAFSC: 1A771			LST CHMB:	14 AUG 0	3 MAJICI	DM: SOC			
				(PART	-1)				
MDS:	MH053M	MH053J	SMHC53J	TH053A	AC130H	AC130U	ACFT		
CREM PUSN:	MG	MG	MG	MG	MG	XG	TUTAL		
SEQ NO:	01	0.5	0.3	04	oo	on			
TOTAL TIME:	787.8	715.2	16.0	67.3	1069.6	3.2	2643.1		
PRIMARY:	758.3	696.8	16.0	67.3	989.2	0.0	2511.6		
SECONDARY:	0.0	0.0	0.0	0.0	4.4	0.0	4.4		
INSTRUCTOR:	0.0	0.0	0.0	0.0	74.6	0.0	74.6		
EVALUATOR:	0.0	0.0	0.0	0.0	0.0	0.0	Ω.0		
OTHER:	29.5	18.4	0.0	0.0	1.4	3.2	52.5		
COMBAT:	71.6	0.0	0.0	0.0	28.4	0.0	100.0		
CMST SUPI:	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
NVG:	473.9	300.8	8.0	0.0	0.0	0.0	773.7		

TOTAL FLYING TIME: 2643.1 TOTAL FRIMARY/INSTRUCTOR TIME: 2602.2 GRAND TOTAL: 2643.1 MDS PRIMARY/INSTRUCTOR TIME: 2586.2

#### B. 30/60/90 DAY FLYING HISTORY REPORT (MTS)

90 DAYS TOTAL FLYING TIME: 36.7

#### PERSONAL DATA - PRIVACY ACT OF 1974 (5 USC 552a)

PREPARED 23 NOV 2003 20:47 INDIVIDUAL FLIGHT DATA AS OF 23 NOV 2003 PCN SA036-F60 SSAN: API: A PRI ACPT: MHO53M NAME: LOPEZ, WAYNE C RANK: SMB CREW POSN: MG AGE LST PHYS: 10 SEP 03 FAC: A ASC: BA DAFSC: 1A771 LST CHMB: 14 AUG 03 MAJCOM: SOC AIRCRAFT TYPE REQUEST: ALL AIRCRAFT MDS REQUEST: % (PART-2) 19 NOV 16 NOV 14 NOV 23 NOV 22 NOV S1 NOA 18 NOV 17 NOV 20 NOV 15 NOV 0.03.7 0.0 5.0 0.0 0.0 0.0 0.0 0.0 13 MOV 12 NOV 11 NOV 10 NOV D9 NOV 08 BOV 07 NOV DE NOV OS NOV 0.0 0.0 5.3 2.6 0.0 1.4 0.0 0.0 0.0 0.0 03 NOV VCM SO 01 NOV 31 OCT 30 OCT 29 OCT. 28 OCT 27 DCT 26 OCT 25 OCT 0.0 3.0 0.0 0.0 0.0 0.0 0.0 3.3 0.0 0.0 --- 30 DAYS TOTAL FLYING TIME: 24.3 DAYS FLOWE: 7 ---22 OCT 21 OCT 24 OCT 23 OCT 20 CCT 19 OCT 18 OCT 17 OCT 16 OCT 15 OCT 0.0 0.0 0.0 0.0 0.0 2.0 14 OCT 11 OCT 05 OCT 13 OCT 12 OCT 10 OCT ne octr 08 OCT രൗ രണ 06 OCT 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 04 OCT 27 SEP 03 OCT 02 OCT 01 OCT 30 SEP 29 SEP 28 SEP 26 SEP 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 60 Days Total, Flying Time: 31.8 DAYS FLOWN: 10 ---24 SEP 23 SEP 22 SEP 21 SEP 20 SEP 19 SEP 18 SEP 17 SEP 16 SEP 15 SEF 0.0 0.0 0.0 0.0 0.0~ 6.0 0.0 0.0 4.7 0.0 14 SEP 13 SEP 12 SEP II SEP 10 SEP 09 SEP 08 SEP 07 SEP OS SEP OS SEP 0.0 0.0 0.0 0.0 C.D 0.0 O4 SEP 31 AUG 30 AUG 27 AUG 26 AUG 03 SEP 29 AUG 28 AUG 02 SEP Ol SEP 0.0 0.0 0.2 0.0 0.0 0.0 0.0 0.0 0.0 0.0

DAYS FLOWN: 12 ...

## C. FLIGHT TIME CATEGORIES AND FLIGHT CONDITION TIME SUMMARY (MTS)

		PER	GOTTAL	DATA PRIVAT	E ACT OF 1	974 (5	850 552m				
PREPARED BY NOV BAR	3 15:37		Â	IRCRAIT MISHAP	(BVESTICE	वार्य <b>ा</b>	<b>K</b> :	as of	24 NOV 2003	FOR SAC	36 F30
nar: lopet. Wayne Cho. Skii - Win Kurf Maling.	ប ស: ១៧ <i>ខាន់១៩</i> អាច	Stade	: 579	SSAM: ORGANIZATION: ALECTOSI TYPE:		( <b>13</b> 2)	FAC: A POSITION: AL NO: 1612	NYS.	DAFSC: 141 ASC DATE: 14 MISHAP DATE:	ROV 208	
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HAME: COPEZ, WAYNE COM: SOX HICK	g: 101650pmi	CRAGE		STAR: UBGANILATION: AIRCRAFT TYPE:				MG	Daffu: 127 ASC DATE: 14 HISHAP DATE:	KNY 200!	
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## II. FLIGHT EVALUATION AND TRAINING RECORDS

## A. AF FORM 942, 1381 (MP)

			RECORD OF	EVALUATION	DN		
NAME ties:. Plumhoff,	Aces, Middle Irritali Sloven				594		
TYPE AIR- CRAFT	Type O# Evaluation	DATE COMPLETED	COMMUNICATION LEVEL	TYPE AR- CRAFT	TYPE OF EVALUATION	STAC DETEUPHICO	CONTROLLER CEVE S CAMENO
	ASSIGNED 514 FLTS	19940901		MH-53M	MSN	200:0326	LAISON)
etiacaaxaa	INITIAL REVIEW	19941005		MH-53M	RQ MSN (NWC)	20010419	(AESCK.)
HH-1H	INIT QUAL/INSTM	19941220	Q (AFMC)	M21-53M	QUALINSTM	20010710	JASSOC)
	ANNUAL REVIEW	19950314			AETC		
	ASSIGNED 55! SOS		(AETC)	мн-531	N/N SPOT	300:0139	(AELC)
TH-53A	Initial Qualification	19960129	FC Q (AETC)		Annual Review	20020117	(ALTC)
7K-53A	Init SME (Cargo Sling)	19960129	FC Q (AETC)	MH-531	MSN	20020815	(AETC)
MH-531	Initial Mission	19960830	MC Q (AETC)				ALK DESIGN OF AN
	ASSIGNED 11 SOS		(AFSOC)		, , , , , , , , , , , , , , , , , , , ,		,
MH-53J	Init INSTM/QUAL	19970331	FP Q (AFSOC)				7
	ANNUAL REVIEW	19970407	(AFSOC)	**************************************			
M:I-53i	MSN (MC)	19970603	MC Q (AFSOC)				7
	ASSIGNED 21 SOS		(AFSOC)				
M71-531	instruzeni	19980323	(AFSOC)				·
MH-531	QUAL	19980323	(APSOC)			/	1
	ANNUAL REVIEW	[9980417	(AFSOC)				
MH-331	Initial Mission (Lead)	19980527	3 (AFSOC)				
MH-53!	Initial Mission (Leac)	19980601	1 (AFSOC)				
MR-531	INIT MSN (NWO)	19981111	(AFSOC)				1
MH-53/	N/N SPOT	19990130	1 (AFSUC)	THE REPORT OF THE PARTY OF THE			men
MIE S3	INIT INSTRINSTM/QUAL	19990217	1 (AFSOC)				384 24 · · · · · · · · · ·
MB-3.L	init instr	19990217	(AFSOC)				
••	Arnual Review	19990331	(AFSOC)				
MH-53	RQ MSN/INIT INSTR	19991006	(AFSOC)		>1 40.00(4) % =		
	Annual Roview	20000328	(AFSOC)				
4H 53M	QUAL/INSTM	20000601	(APSOC)				
	Annual Review	20010312	(AFSOC)	/			

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			RECORD O	FEVALUATI	ON		
	First Middle Indial)			33N			
PI.UMH(	OFF, STEVEN						
TYPE AIS- CRAFT	TYPE UF EVALUATION	DATE COMPLETED	CHALIFICATION LEVEL (ZMI)	TYPE AR- CRAFT	TYPE OF EVALUATION	COMPLETED	CLAUFET/ BAR
N111-533	QUAUINSTM	30021120	(331 SOS)		a an amaria		
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AF FORM 942, 20030501 (IMT-V1) PREVIOUS EDITIONS ARE OBSOLETE

## B. AF FORM 942, 1381 (MC)

		F	RECORD OF E	VALUATIO	N		
Hawe (Lact, )	First, Middle Initial				SSN		
Richardson  TYPE  AIR-  CRAFT	TYPE OF EVALUATION	DATE COMPLETED	OUALIFICATION LEVEL (COMMIANS)	TYPE AIR- CRAFT	TYPE OF EVALUATION	DATE COMPLETED	GUALIFICATIO LEVEL (COMMAND)
· · · · · · · · · · · · · · · · · · ·	Assigned 551 SOS	20020826	(AETC)		T de la constant de l		
	Annual Review	20020826	(AETC)	m;;	Constitution of the Consti		
MH-53J	INIT QUAL	20021029	(AETC)	(a, usuma )			
MH-53J	INIT SIM INSTM	20021029	(AETC)				
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<i></i>				1	- Britis		
	42. 19961201 <i>(EF-V</i>						

			RECORD OF		N		
	First Middle toilind			g-BH			
TYPE AIR- CRAFT	on, Christoper C.  TYPE  OF  EVALUATION	DATE COMPLETED	CUALIFICATION LEVEL (Unit)	TYPE AIR: CRAFT	TYPE OF EVALUATION	DATE CCMPLETED	QUALIFICATION LEVEL (Unit)
	Annual Review	211115485	(551 5035)				10/
MH 531	IND MSN	20030521	) (551 SOS)				-
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	M 942, 20030501			EDITIONS ARE			

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т	IS IS TO CERTIFY THAT	
LAST HAME, PIRST, NIDOLE INITIAL AND SSAN		
Richardson, Christopher C.		
HAS SATISFACTORILY COMPLETED THE	TRAINING OR SPECIAL	QUALIFICATION INDICATED HEREON
Training requirement/gublect title	. DATE COMPLETED	CERTIFYING OFFICALISTICANIZATION
CARGO SLING	20021003	SEAN M. HOYER, MAJ SSI SOS/DOV
0,110,000,000	<u> </u>	11 124
CDTQT (AERPS)	20030818	WILLIAM J. ROWELL, Maj, 20 SOS/CCE
DAY WATER OPERATIONS	20030123	SEANM HOVER, Mai, 351 SOS/DOV
DEFENSIVE SUPPRESSIVE FIRE	20031102	CHRISTOPHER U. SCHUMPP, CADE. 20 SUS
		A STATE OF THE STA
DISSIMILAR FORMATION	Windships which a second	
FUNCTIONAL CHECK FLIGHT		
HOT REFUELING/FARRP	20020916	SEAN M. HOYER, MAN SSI GOS/DOV
IDAS/MATT	20030620	SEAN M. HOYER, May 554 SOS/DOV
IDAS/MATT BCC3	20030620	SEAN M. HOYER, Maj. 351 SOS/DOV
NIGHT EMERGENCY PROCEDURES	20030902	PAUL H. HULLIS, Maj, 14NS/DOKH
NIGHT WATER HOIST/FAM	20030902	PAUL M. MULLIS, Maj. 14WS/DOKH
SPIE		
SHIPBOARD OPERATIONS SINGLE SPOT		
SHIPBOARD OPERATIONS MULTI SPOT		Control of the Contro
VERTICAL BOARD, SEARCH, AND SEIZURE	- And a second passion	
500' AUTOROTATIONS	20021016	SEAN M. HOYER, Mai, 551 SOS/DOV
Low Visibility Approach (LVA)	20031014	WILLIAM S. BERNER, LECOL. 20 SOS
AF FORM 1381, 19760301 (EF-V2)	PREVIOUS EDITIO	

## C. AF FORM 942, 1381 (MRS)

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Ker	wood, William	J		- Mr. H. v.		and the state of t	garages were a received to Alexandra superior states the states of the same states of the
CRAPT	TYPE OF EYALUATION	DATE COMPLETED	QUALIFICATION LEVEL (COMMIND)	TYPE AIR- CMAPT	TYPE OF EVALUATION	DATÉ COMPLETED	QUALIFICATION LEVEL (COMMEND)
B52G	Initial Qual	10 Apr 86	U (SAC)	NH- 633 MH-	Qua! REQUAL	7. Apr 94	MF Q(AFSOC)
B526	Recheck	21 Apr 86	Q (SAC)	533	50 CAL.	21 Oct 94	MF Q (AFSOC)
ASSIC	NED TO 97 BMW	(SAC)		535	SPOT	24 Oct 94	MF Q(AFSOC)
852G	Qual	30 Apr 87	Q (SAC)		ASSIGNED TO	20 SOS (AF	OC)
B52G	Qual INITIAL	21 Sep 88	Q (SAC)	MH- 53J	ANNUAL QUAL	6 JUL 95	MF Q (AFSOC
UH-LN	QUALIFICATION		(MAC)	MH- 531	SPOT	TO JDT 92	MF Q (AFSOC
	initial remote SME(Carro)	18 APR 89	(MAC)	237 231	QUAL	31 MAY 96	MF Q (APSOC)
	ASSIGNED 3246	TESTW(AFSC)		53J	MISSION	21 JUN 96	MF Q (AFSOC
	INITIAL STAN/ EVAL REVIEW	25 APR 89	BH	Annua	Review	20 AUG 96	(AFSOC)
	Annual Stan / Evanl Review	3 APR 90	M		ASSIGNED TO	31 508 (AF	50C)
	QUALIFICATION/ MISSION	13 SEP 90	(AFSC)	MH- 531	Annual Oual/Msn	20 May 97	MF O (AFSOC
181_1	AFSC STAN EVAL		(A9sc)		Annual Review		(AFSOC)
	annual Stan/		ANN	МН- 231	Initial Instructor	17 Nov 97	(AFSOC)
	EVAL REVIEW	551 FTS			Assigned 2030S		(AFSOC)
CH-	Initial Qual/			MH- 53.J MH-	MSN	11 May 98	(AFSOC)
	Sling)	19 Nov 91	FF Q (MAC)		QUAL	22 Jul 98	(AFSOC)
ин- ≈53J	Initial Night Tac	23 Mar 92	MF Q (MAC)		Annual Raview	30 JUL 98	(AFSOC)
게 53J	Initial SME/ Pave Low	15May 92	ME O (MYC)	MH- 53M	n/n qual	6 JUL 99	(AFSOC)
	Assigned	TO 21 508		<u></u>	Annual Review	15 Jul 99	(AFSOC)
MH- 531	Qual	28 лп. 92	MF O (AFSOC	MES MES	MSN	7 Jul 99	(AFSOC)
MH- 53J	Pave Low(SME)	3 Jun 93	MF Q (AFSOC	)5.3M	SPOT	20000426	(AFSOC)
MH.	Initial NNO (SME)	3 Jun 93	MF Q (AFSOC		Annual Review	20000707	(AFSOC)
MH-	Oual	3 Jun 93	MF O (AFSOC	MH-	Assigned 31 S	08 12Sept 06	(AFSOC)
MB/L	NTAC	7 Jun 93	MF Q (AFSOC	46.31	Ougl	12 Oct 00	(AFSOC)
MI- 53J	MISSION	8 Mar 94	MF Q(AFSOC)	MH-	MSN	9 Nov 00	(AFSOC)
MI- :53J	PAVE: LOW (SME)	8 Mar 94	ME DIAFSOC	L	ASSIGNED 2050	15 Jul 01	(AFSOC)

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Qu.s. g.F.O. 1877-241-130/107

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Kerwood, ' TYPE AIR: CRAFT	TYPE OF EVALUATION	DATE COMPLETED	QUALIFICATION LEVEL (COMMAND)	TYPE AIR- CRAFT	TYPE OF EVALUATION	DATE COMPLETED	QUALIFICATION LEVEL (COMMAND)
ennuse of the track the second	Annual Review	16 Jul 2001	(AFSOC)				
MH-53M	QUAL	17 Jan 2002	1 1				
MH-53M	MSN	17 Jan 2002	(AFSOC)				
	Annual Review	1 Jul 2002	(APSLA_)				
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	942, DEC 96 (EF-V1) (				ARE OBSOLETE.	)	

		**	RECORD OF	EVALUAT	ION					
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Kerwood	, William J			V 2 7 100 81-91 441 1 V 241-94 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1						
TYPE AIR: CRAFT	TYPE of EVALUATION	DATE COMPLETED	CUALIFICATION LEVEL (Unit)	IYPE AR- CRAFT	TYPE OF EVALUATION	DATE COMPLETED	QUALIFICATION LEVEL (Unit)			
	Annual Review	20030731	(20 SOS)							
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AF FORM 942, 20030501 (IMT-V1)

PREVIOUS EDITIONS ARE OBSOLETE

USAF CERTIF	PICATION OF AIR CRE	W TRAINING
LAST NAME, FIRST, MIDDLE INITIAL AND SSAN	THIS IS TO CERTIFY THAT	
Kerwood, William J.		
HAS SATISFACTORILY COMPLETED T		
TRAINING REQUIREMENT/SUBJECT TITLE	DATE COMPLETED	CERTIFYING OFFICIAL/ORGANIZATION
Cargo Sling (Transcribed)	ON OR BEFORE	
Aircrew Eye and Respiratory Protection System (Transcribed)	ON OR BEFORE	
Defensive Suppressive Fire (Transcribed)	ON OR BEFORE	
FARRP (Bot Refueling) (Transcribed)	ON OR BEFORE	
Shipboard Operations (Transcribed)	ON OR BEFORE	
Tactical Shipboard Ops (VBSS) (Transcribed)	ON OR BEFORE	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
Blade/Pylon Fold (Transcribed)	ON OR BEFORE	1.00
FCF (Transcribed)	ON OR BEFORE	
IDAS/MATT (Transcribed)	ON OR BEFORE	1 17
Infrared Aiming Device (IRAD) (Transcribed)	ON OR BEFORE	
Sled (Transcribed)	ON OR BEFORE	
IDAS/MATT Block Cycle Change   (Transcribed)	ON OR BEFORE	Roger D. Bowers Ir, SSgr, 20SOS/DO
LDAS/MATT Block Cycle Change 7	28 мау 02	Roser D. Rovers Jr. SSgr. 2050S/DOV
LOCK CYCLE 3	23 Aug 02	Ryon L. Crowley, TSgr. 20 SUS/DUV
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PREVIOUS EDITION WILL BE USED.

## D. AF FORM 942, 1381 (MFE)

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	First Middle Vellal)			SON				
Walkup.	Thomas A. Jr.							
TYPE AIR: CRAFT	TYPE UF EVALUATION	DATE COMPLETED	CUALIFICATION LEVEL (Unit)	TYPE AIR- CRAFT	TYPE GF EVALUATION	DATE COMPLETED	QUALIFICATION LEVEL (Unit)	
	Assigned 551 505	20020625	(AETC)	, per - 1 924	.uu ugua. ht :	1	· }	
	Aumid Review	31031625	(AÉTC)		e- колушшен (,, қуы)	May 21	. No. 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10	
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	Assigned 20 SOS	20034722	120 8081	,				
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LAST MAKE, FAST, MODILE INITIAL AND SSAN	Contract March 198	** · · · · · · · · · · · · · · · · · ·
Walkup, Thomas A. Jr.		
		NALFICATION INDICATED HEREON
TRAINS REQUIREMENTS UBJECT TITLE	DATE COMPLETED	CERTIFYING OFFICIAL ORGANIZATION
BLADE/PYLON FOLD	01.0-100	VINCENT & DEPERSIO, SSGT, 551 SOS/DO
	21 Oct 02	the contraction of the contracti
HOT REFUELING/FARRP		VINCENTA. DEPERSIO, SSGT, 551 SOS/DOV
NOT REPUECING PARCE	21 Oct 02	VINCENTAL DEPENSIO, 5501, 551 SUGIDON
		417
CARGO SLÍNG		VINCENT A. DEPERSIO, SSGT, 551 SOS/DOV
	21 Oct 02	111
		1
NFARED AIMING DEVICE (IRAD)		VINCENT A. DEPERSIO, SSGT, 551 SOS/DOV
	13 May 03	641
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		Cloud in the
erps	22 Aug 03	JOSEPH W. MOON, TSGT, 2050S/DOFA
WITE U	TE MUS 03	TOTAL TOTAL TOTAL
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DAS/MATT	03 Sep 03	JOSEPH W. MOON, TSGT, 20SOS/DOFA
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ripboard Operations	4 Nov 03	Sean C Nolan, MSgt, 20 SOS/DOFC
	,	Ittal
efensive Suppressive Fire (DSF)	27 Oct 03	Sean C Nolan, MSgt, 20 SOS/DOFC
stempine adbbieshing tite (mpt)	. 27 000 03	sean C Rollan, Mage, 20 303/0010
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AF FORM 1381, MAR 76 (CG) (SEIIS Pro)

PREVIOUS EDITIONS WILL BE USED

## E. AF FORM 942, 1381 (MLS)

MAME	sz. Middle Initial				SSN		
	HOWARD A.				901		
TYPE AIR- CRAFI	TYPE ' OF EVALUATION	DATE COMPLETED	DUALIFICATION LEVEL (CUMMAND)	1YPE AIR- CRAFT	TYPE OF EVALUATION	DATE COMPLETED	OVALIFICATION LEVEL (COARMAND)
MH-53J	INITIAL QUAL/MISSION	19951214	MG Q (AFSOC)				
	ASSIGNED 20 SOS		(AFSOC)		mariperations, , , , , , , , , , , , , , , , , , ,		<b></b>
MEI 531	INTI. SME (NWO)	19961011	(AFSOC)				<u> </u>
MH-53J	QUAL/MSN	19961015	(AFSOC)	<u></u>			<del> </del>
	ANNUAL REVIEW	19970108	(AFSOC)	An Calmy 2	· · · · · · · · · · · · · · · · · · ·		_
MH-53J	SPOT	19970723	(AFSOC)				Annabasasas V.
MH-53J	INTL SME (Rappel)	19971006	(AFSOC)				E-1
MH-53J	MISSION	19971028	(AFSOC)	an.	The state of the s		and a comment
	ANNUAL REVIEW	19980107	(AFSOC)			-	erres serves
MH-53J	MISSION	19980916	(AFSOC)				i a a a a a a a a a a a a a a a a a a a
	ASSIGNED 31 SUS		(AFSOC)		777		oppo
	ANNUAL REVIEW	19981215	(AFSOC)				**************************************
A STATE OF THE STA	ASSIGNED 551 SOS		(AETC)				
	ANNUAL REVIEW	20000105	(AETC)				
MH-53J	QUALIMSN	20000215	(AETC)		- Commission		
MH-53J	N/N SPOT	20000313	(AETC)				BAN Mach. Person in
MH-53J	INIT INSTR	20000323	(AETC)				
	ANNUAL REVIEW	20010110	(AETC)				A SHORT NEW YORK OF THE PARTY O
MH-53J	QUALIMSN	20010709	(AETC)		200 2 3 MOTO 12 ME		
M. p. nj.,	ANNUAL REVIEW	20020110	(AETC)	names.	AND AND AND AND AND AND AND AND AND AND		-
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Walters,	/alters, Howard A.								
TYPE AIR. CRAFT	TYPE OF EVALUATION	DATE COMPLETED	CHALFICATION LEVEL (LINK)	TYPE AR- CRAFT	OF OF TYPE	DATE COMPLETED	DIALIFKATION LEVEL (LANG)		
MIPER	OTTALIJMSN	20021212	1 (531 SOS)						
	Annual Review	20030109	(551 SOS)						
MH-531	N/N SPÓT	2103/1403	(58 (XG)						
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FOOL	A 942, 20030501	J. J.	- DE MOUS	EDITIONS ARE	DOCAL ETE				

AF FORM 942, 20030501 (IMT-V1)

USA: CERTIFIC	ATION OF AIR CREW	TRAINING
	IS IS TO CERTIFY THAT	
1 AST NAME FRST, MINIST BRIDG AND SSAN Walters, Howard A. HAS SATISFACTORILY COMPLETED THE	Thanking our concean only	RE HOW AND MONEY WITH MINUSCOM
TRAINING REQUIREMENT/SUBJECT TITLE	DATE COMPLETED	CERTIFYING OFFICIAL/ORGANIZATION
	DATE MONATE D	· · · · ·
HOT REFUELINGFARRP (Transcribed)	27 Sep 95	KEVIN E. WILSON, MSg1, 551 SOS/DOV
AERIAL REFUELING FAM (Transcribed)	14 Dec 95	KEVIN E. WILSON, MSgi, 551 SOS/DOV
BLACE/PYLON FOLD (Transcribed)	14 Dec 95	KEVIN E. WILSON, MSgt, 551 SOS/DOV
SHIPDOARD OPERATIONS (Transcribed)		KEVIN E. WILSON, MOST. 551 SOCIDON
The second secon	15 Jun 96	X266_
SLED/WINCH (Transcribed)	3 Jul 96	KEVIN E. WILSON, MSgl. 551 SOS/DOV
AIRCREW EYE AND RESPITORY SYSTEM (AERPS) (Transcribed)	3 Jul 96	KÉVÍN E. WILSON, MSgr. 551 SÓS/DÓV
INFRARED AIMING DEVICE (IRAD) (Transcriber)	17 Mar 97	KEVIN E. WILSON, MSM, 551 SOS/DOV
DEFENSIVE SUPPRESSIVE FIRE (Transcribed)		HEVINE WILSON, MSH, 551 SOC/DOV
RAPPEL (AFTER INITAIL QUAL) (Transcribed)	27 Mar 97 6 Oct 97	KEVINE. WILSON, MSg1, 551 SOS/DOV
DILLON FEEDER	12 Sep 02	KEVIN B. WILSON, MSgH, 561 SOS/DOV
AF FORM 1381, MAR 78 (CG) ISSUE PRO	EVIOUS EDITIONS WILL SE USE	0

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# A. AF FORM 942, 1381 (MTS)

		,~ !	RECORD DF	EVALUATIO	ON		
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TYPE AIR- CRAFE	VAYNE C. JR.  TYPE  OF  EVALUATION	DATE COMPLETED	OCALIFICATION LEVEL (COMMAND)	TYPE AIR CRAFT	TYPE OF EVALUATION	DATE COMPLETED	QUALIFICATIO LEVEL (COMMAND)
	Assigned 16 SOS		(AFSOC)		Annual Review	I May 2002	(AFSOC)
AC-130H	INITIAL QUALIFICATION	8 Aug 1991	MG Q (AFSOC)	мн-53м	QUAL/MSN	9 Oct 2002	(AFSOC)
AC-130H	SPOT	24 Oct 1991	MG Q (AFSOC)	TOTAL AND MARKET			
AC-130H	ANNUAL QUAL	1 Jul 1992	MG Q (AFSOC)			CHICAGO AND AND AND AND AND AND AND AND AND AND	7
AC-130H	NO-NOTICE	14 Jan 1993	MG Q (AFSOC)	بادين و چون د دورو و د پوسسورد. ا			
AC-130H	ANNUAL QUAL	11 Aug 1993	MCO	-:			1
AC-130H	QUAL	25 Jul 1994	MG Q (AFSOC)		Transfer days		7
AC-130H	INITIAL INSTRUCTOR	12 Sep 1994	IG Q (AFSOC)		A STATE AND AND ASSESSMENT OF THE STATE OF T		<i></i>
AC-130H	MISSION	24 Aug 1995	IG Q (AF\$OC)		d of the state of		
MI1-53J	INITIAL QUAL	22 Apr 1996	MG Q (AFSOC)				•
	Assigned 31 SOS	more ware or control	(AFSOC)			7	
MH-53J	SPOT	23 Jul 1996	MG Q (AFSOC)				
MH-53J	MSN	3 Sep 1996	MG Q (AFSOC)		N		127
	Aimua) Review	1 Nov 1996	(AFSOC)	Temeran V V Ar James X (1944 accord)	7	1	
MH-53J	INITIAL SME (NWO)	21 Nov 1996	MG Q (AFSOC)				
MH-53J	MISSION	14 May 1997	MG Q (AFSOC)		L		**************************************
	Assigned 20 SOS	6 Jun 1997	(AFSOC)				
	Annual Review	5 Nov 1997	(AFSOC)				
MII-53J	MSN	5 Oct 1998	AFSOC)				
	Annual Review	12 Oct 1998	(AFSOC)				
	Annual Review	18 Out 1999	(AFSOC)				
MH-53M	QUAL/MSN	13 Jan 2000	(AFSOC)				
	Annual Review	19 May 2000	(AFSOC)				
мн 53М	SPOT	27 Арг 2000	(AFSOC)	$_{\perp}$			
ин-53М	N/N SPOT	8 Mar 2001	(AFSOC)		WE STORM WE WILLIAM		
	Annual Review	2 May 2001	(AFSOC)				
ин-53M	QUAL/MSN	30 May 2001	IAFSOC)	Mileson die bisitier is a disconne			

AF FORM 942, DEC 96 (EF-V1) (PHIFORM PRO)

PREVIOUS EDITIONS ARE OBSOLETE.

		ar"	RECORD OF	EVALUATIO	N Septiment		
	First Mickele (meet)		The Company of the State of the	334			
.opez, W	ayne C. Jr.						
TYPE AIR: CRAFT	TYPE OF EVALUATION	DATE COMPLETED	QUALIFICATION LEVEL (Unit)	TYPE AIR- CRAFT	TYPE OF EVALUATION	DATE COMPLETED	QUALIFICATION LEVEL (Unit)
	Annual Review	20030219	( 20 SOS )	or the state of th			
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					**************************************	REZINTEN CHAMBERGEINN CLEUCEGELARINNERSCHINGEN (M.C.)	CANTERSON SERVICES STEELS SERVICES ASSAULT
		CHARLES COMMENTE AMERICA, DE AMERICA MARTINE.	ili Massamari				
	And the state of t	***					
	Canadia				××××××××××××××××××××××××××××××××××××××		
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USAF CERTIFIC		N. NORMAN
	IS IS TO CERTIFY THA	T
LAST NAME, HRST, MIDDLE HITIAL AND SSAN LOPEZ, WAYNE C. JR.	,	
HAS SATISFACTORILY COMPLETED THE	TRAINING OR SPECIA	L QUALIFICATION INDICATED HEREON
TRAINING REQUIREMENT/SUBJECT TITLE	DATE COMPLETED	CERTIFYING OFFICIALIORGANIZATION
AIRCREW EYE AND RESPIRTORY PROTECTION SYSTEM (AERPS)TRANSCRIBED	19980210	Louis D. Orrle, TSgt, 20 SOS/DOV, EG
DEFENSIVE SUPPRESIVE FIRE (DSF)TRANSCRIBED	19971003	Louis D. Orrie, TSgs, 20 SOS/DOV, BG
HOT REFUELING, FARRPTRANSCRIBED	19960213	900
INFRARED AIMING DEVICE (IRAD)TRANSCRIBED	19961127	Louis D. Orrie, TSg., 20 SOS/DOV, EG
SHIPBOARD OPERATIONSTRANSCRIBED	19980818	Louis D. Orrie, TSgl. 20 SOS/DOV, EG
BLADE/PYLON FOLD	• • • • • • 2 layer and transferring experiment flow parameters (1937 feet)	Louis D. Orric, TSgt, 20 SOS/DOV, EG
RAPPELTRANSCRIBED	20010126	Louis D. Orric, TSgt., 20 SOS/DOV, EG
SPECIAL PATROL INSERTION/EXTRACTION DEVICE (SPIES)		2001 D. Offic, 15gt, 20 300 2001, 20
AERIAL REFUELING FAM		
DAY WA'TER OPERATIONS If not NWO qual)		
DII.LON PEEDER	20020904	Jeffery R. Morrison, MSgt 20 SOS
The second secon	HIRINGIA MALLETINA MARIANTINA PARAMETRIA MARIANTINA MAR	
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## III. MAINTENANCE PERSONNEL RECORDS

Training records were obtained and reviewed for the following maintenance personnel:

Last Name, First MI	Rank	AFSC
Arnold, Jacob W.	SrA	2A552
Bonner, Keith T.	Amn	2A651B
Carpenter, Ryen T	A1C	2A532
Carpenter, Ryen T	A1C	2A532
Gause, Keith H.	A1C	2W151
Gorham, Curtis S.	SSgt	2W171
Wright, Jeffrey D.	A1C	2A532

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## IV. OTHER PERSONNEL EVALUATION AND TRAINING RECORDS

Section Not Used